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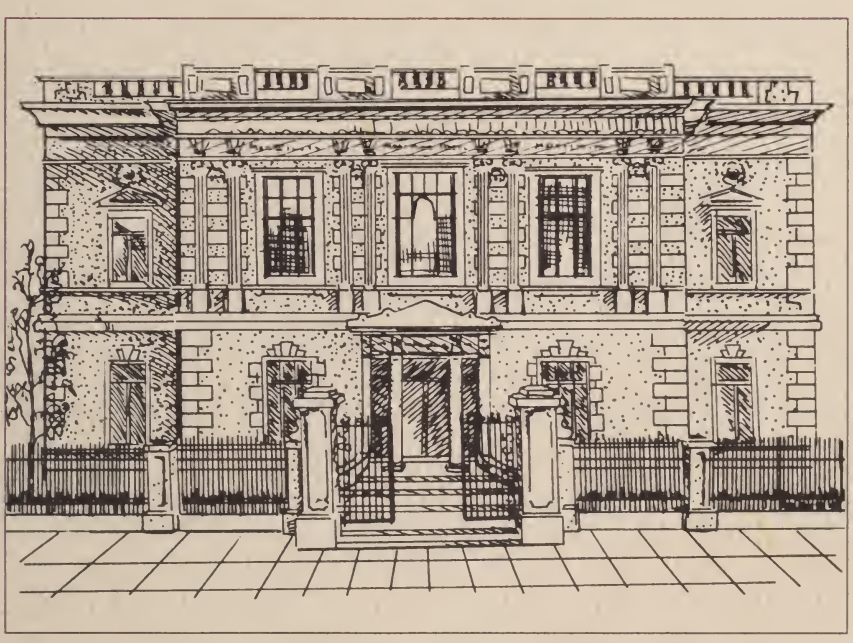

of the
COLLEGE OF PHYSICIANS
OF PHILADELPHIA

Series V Volume XXI December 1999

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Editorial

This issue of *Transactions and Studies* seems to have come together on its own. Internationally and nationally known scholars submitted superb manuscripts that required few if any revisions. The results, I hope, speak for themselves.

David Courtwright takes the most global perspective in this volume of *T&S* by sharing with us a chapter from his forthcoming book on psychoactive substances in human history. Courtwright follows the trajectory of three substances, nicotine, alcohol, and amphetamines, from medical treatment to social problem and constructs a compelling argument about the relationship between medical and legislative or judicial control over psychoactive substances.

Next, Heather Munro Prescott explores a little-known era in the development of American ideas about health and fitness. Her study of the emergence of collegiate athletics and student health programs reveals strong connections between specific administrative and clinical decisions and the larger cultural concerns evoked by rapid industrialization during the late nineteenth century. The author and the editor would like to thank Marty Hackett of the Archives of the University of Pennsylvania for his help locating and obtaining the accompanying illustrations.

In his piece, "Campaign for Reform: Medical Education and Professional Improvement in Antebellum America," Simon Baatz provides new insight into our understanding of the events that established allopathic medicine as the dominant healing system in the United States. Dr. Baatz is in the process of writing a companion piece exploring how universities influenced the possibility of curricular reforms in affiliated medical schools.

Robert Martensen recreates a lively policy debate that divided Fellows of the College of Physicians in 1894. It is worth noting that the issue in 1894, the mandatory registration of patients with an infectious disease, remains controversial one hundred years later. Martensen's work is particularly interesting as it correlates the ethical aspects of this issue with the acceptance of laboratory-based evidence about the transmission of tuberculosis. Ethical positions in

this debate do not always rest on immutable principles, but rather respond to the constantly changing nature of scientific knowledge and technological efficacy.

While certainly not as detailed as the featured articles, the Reports of the Short-Term Fellows of the Wood Institute make interesting reading as well. Positioned at the end of the Wood Institute's Annual Report, these project summaries document the important research in medical history that was supported by the Wood Institute during the past year.

I am pleased to be able to continue the *From the Collections* section begun in previous issues by Nancy Cervetti, Henry Sherk, and Kathryn Simmons. These authors presented an artifact from the College's collections and provided the necessary historical context. I hope that Fellows, readers, and visitors will continue describing their own discoveries from the collections for publication in subsequent issues. The dedication of the Library and Museum staff, as well as conservation and preservation grants, create a unique opportunity for this kind of research.

The College has been a very supportive environment for my double existence as a historian and a clinician and I am very grateful to the Trustees, the Executive office, the staff, and the many Fellows whose efforts made this issue of *T&S* a simple and enjoyable process.

DEBORAH FRANKLIN, PH.D., M.D.

Report of the President of the College of Physicians of Philadelphia July 1998–June 1999

Charles T. Lee, M.D.

The past year was marked by a high level of activity throughout the College together with some significant changes in governance and management. I was impressed by the dedication and effectiveness of all those—both Fellows and staff—who made this possible. We advanced in many areas including programming, Fellowship, governance, and development. These gains were tempered by our problems in the Office of Finance and Accounting and our failure to make significant improvement in our financial picture.

The College's programs and lectures were of consistently high quality. They were diverse, uniformly interesting, and better attended than any similar series in the last ten years. Under the leadership of Dr. William Kissick, the Section chairs, Drs. Robert Kaiser, Thomas Langfitt, Richard Lippin, and Walter Tsou, have been very productive. College presentations included a celebration of the 200th anniversary of the Public Health Service with a lecture by U.S.P.H.S. historian, Dr. John Parascandola. In March, the College hosted a special program featuring U.S. Surgeon General David Satcher and former U.S. Surgeon General C. Everett Koop. Following introductory remarks by Dr. Koop, Dr. Satcher outlined his five health priorities for the millenium: ensuring that every child has an opportunity for a healthy start in life, promoting healthy lifestyles, improving the nation's mental health system, increasing attention to global health, and strengthening the nation's community health systems. The annual Jonathan E. Rhoads Commemorative Lecture was given by Judah Folkman, M.D., who described his important research on angiogenesis. In June, we were able to host former U.S. Senator Robert Dole as part of a program on the physician-patient relationship sponsored by Pfizer, Inc.

The opening of the College Gallery's new exhibition on emerging infectious diseases was well received. It captured significant media attention and has been the focus of several media programs.

Dr. C. J. Peters was invited to return to the College to discuss his work with hantavirus and Dr. Barbara Murray provided a look at the perils of antibiotic resistance to an audience that was standing room only. While exploring the question "Are All Diseases Infectious?" College Fellow Bennett Lorber presented information about the many illnesses that were not thought of as infectious but that have now been linked to specific vectors including viruses and bacteria. During the next year, the College will continue to complement the Gallery exhibition with additional lectures on AIDS, biological warfare, and other emerging infectious diseases.

The Measy Foundation has provided a grant of $400,000 to support a Chair in Medical History/Director of the Francis C. Wood Institute for the History of Medicine. This grant was greatly facilitated by the efforts of former Presidents Jonathan Rhoads, M.D. and Robert Brooks, M.D. The Search Committee, headed by Charles Rosenberg, Ph.D. began interviewing candidates this July with the expectation that a new Director will be in place by July 2000. Meanwhile, the Library Advisory Committee, chaired by Dr. Robert Reinecke, has been reviewing the state of the Library, the Health Science Library Consortium's relationship to the College, and the possibility of providing computer education for Fellows.

A major advance this year was the adoption of revised by-laws. These changes were the result of deliberations by the Task Force on Board and Membership Development, which was charged by Past-President Dr. Alfred Fishman as part of the College's strategic planning process initiated in 1996. The Committee was chaired by Dr. William Kissick and is to be commended on its efficient and effective work. As recommended, the name of the College's governing body has been changed from "Council," used for 135 years, to "Board of Trustees" and "Councilors" have become "Trustees." In addition, a provision was made to allow individuals without formal training in a medical or related discipline to become Fellows and to be elected as Trustees. This will provide the College with regular access to sources of expertise and experience that were previously unavailable to us. The tradition that Officers of the College of Physicians be physicians will continue, as the number of trustees who are not physicians cannot exceed one quarter of the Board. The new by-laws also establish a permanent Nominations Committee, with the past-president serving as chair and with four other members who will serve four-year terms with one rotating off each year. This structure will permit the Committee to plan for future governance without being limited to a one-year time frame. The Execu-

tive Committee of the Board has also been enlarged to include the Secretary and the Treasurer of the College as voting members.

A significant vacancy in our staff was filled this year with the appointment of Mr. Edward Plocha as Director of Development. This vital component of any non-profit organization had been missing, with a consequent failure to increase our unrestricted and restricted giving despite valiant efforts by the Executive Director and departmental directors to fill this gap. Now that we are in a position to plan for the future, George Fisher, M.D., Chair of the Development Committee, is preparing the way for a major capital campaign in two years.

The discovery, in 1998, of defalcation on the part of the former Controller was a very significant blow. It resulted in the loss of cash revenues, in additional expenses for auditing and legal fees, and a significant failure to bill accounts receivable. It had a major impact on morale, and staff members had to spend a great deal of time repairing the damage. The majority of our losses will be reimbursed by insurance. The good news is that we have an entirely new Office of Finance and Accounting, headed by Mr. Alfred Coppola, MBA, CPA. Mr. Coppola has already impressed us with his energy, knowledge, and hard-working, hands-on approach to building a proper financial structure for the College.

Unfortunately, the College has not been able to operate without a deficit, despite great efforts by the Committee on Finance and the administration to cut costs to the bone. The problem can only be solved by increasing our revenue. Some improvement will be made by increasing income from the parking lot, raising our fees for facilities rental, and having a modest dues increase. These measures alone will not put us in the black and we must continue to increase our unrestricted income from grants and giving. Those who believe that the College should continue to exist for more than a few years should be willing to help the College through this difficult transitional period by making significant and substantial contributions to the College. If we have accepted the roles of Fellows and Trustees, then we must meet the responsibilities entailed in these positions. It is, however, heartening that we continue to attract new candidates for Fellowship. The Committee on Admissions, chaired by Dr. Warren Katz, is putting special emphasis on the need to attract younger prospective members.

Despite the increased activity at the College and the vicissitudes of our financial situation, our staff, working with depleted numbers, has risen to the challenge magnificently. Not only have we not lost

anything, but we have gone forward with increasing momentum. We applaud and are deeply grateful for the dedication and hard work of all our staff: Alfred Coppola, Leroy Green, Andrea Kenyon, Richard Levinson, Marc Micozzi, Antonia Oberthaler, Edward Plocha, Marjorie Smink, Doris Werner, Gretchen Worden, and those who work with them. With them at our side, I believe that we can look forward into the future with confidence.

Annual Report of the Section on Medical History

The Section on Medical History continued to thrive during the year 1998–1999. The oldest Section in the College, it retains a large and active membership, serves as an important forum for medical history in Philadelphia, and maintains a national presence. The Section sponsored its annual series of lectures in 1998–1999 and featured medical historians from across the United States and Canada. The series covered a wide range of topics including infectious disease, public health, medieval medical practice, and medical education.

The Section organized a symposium on the history of medical education in Philadelphia entitled, "Philadelphia Medical Schools in Transition: Case Studies in the Twentieth Century," which filled Thomson Hall to capacity. The distinguished historian Thomas Bonner, author of *American Doctors and German Universities* among other titles, served as the commentator for the half-day program. Two Section members, Steven Peitzman, M.D. of MCP-Hahnemann and Janet Tighe, Ph.D. of the University of Pennsylvania, gave presentations on the history of the Woman's Medical College and Temple University School of Medicine, respectively. Naomi Rogers, Ph.D. came from Yale University to talk about the history of Hahnemann Medical School during the turbulent 1960s. Jennifer Gunn, Ph.D., a member of the University of Minnesota's Department of the History of Medicine, analyzed the transformation and ultimate demise of the Graduate School of Medicine during the period after World War II.

The Section's annual lecture series featured Robert Martensen, M.D., Ph.D. from the University of Kansas, Jacalyn Duffin, M.D, Ph.D. of Queens University, Howard Markel, M.D., Ph.D. from the University of Michigan, and Monica Green, Ph.D. from Duke University. Dr. Martensen delivered the Samuel X. Radbill Lecture and discussed the debate over registering tuberculosis patients in the 1890s. His paper is reprinted in this issue of *Transactions and Studies*. Dr. Markel presented his research on trachoma and Jewish immigration to the United States. His book on the subject, "Quarantine!: Eastern European Jewish Immigrants and the New York

City Epidemics of 1892," was published by Johns Hopkins Press in 1992. Dr. Duffin shared her insights on the life of Laennec and his impact on the practice of physical diagnosis. Her book, "To See with a Better Eye: A Life of R. T. H. Laennec," was issued by Princeton Press in 1998. As part of the final program of the year, Dr. Green gave the Kate Hurd Mead Lecture, choosing a topic that intrigued Mead herself: the Trotula texts and their reflection on women's participation in healing during the medieval period. Her lecture was followed by a festive dinner in the foyer of the College. Members of the Section on Medical History continued to be active in the affairs of the College, including the Library Committee and the Wood Institute Search Committee. The Section was well represented at the annual spring meeting of the American Association of the History of Medicine, where Section members presented papers and served as session chairs.

The Section also welcomed a new clerk this year, Deborah Goldstein, M.D., a pediatrician, Fellow of the College, and Ph.D. candidate at Bryn Mawr College, where she is completing her dissertation on Hippocrates.

Robert M. Kaiser, M.D., Chair
Section on Medical History
College of Physicians of Philadelphia

Annual Report of the Section on Public Health and Preventive Medicine

The Section on Public Health and Preventive Medicine has had an eventful year highlighted by a College lecture featuring not one but two U.S. Surgeon Generals, David Satcher, M.D., Ph.D. and C. Everett Koop, M.D. This year also saw the merger of the Committee on Public Health and the Committee on Preventive Medicine into the Section. The newly reconstituted Executive Board is charged with the responsibility of providing informed guidance to the College as well as programs on contemporary public health issues affecting the Greater Philadelphia area. The Executive Board is elected by the dues-paying members of the Section as well as by the President of the College.

In the five years since its creation, the Section on Public Health has rapidly become a leading regional forum for discussing public health issues. Currently, the Section has nearly 200 dues-paying members and includes Fellows of the College, professionals in government, hospitals, non-profit agencies, students, and citizens interested in public health. The choice of programs and speakers reflects both the broad range of interests of the membership as well as the increasing recognition of public health as a vitally important component of our health care system.

When possible, the Section co-sponsors College programs that promote further knowledge or awareness of topics in public health. The College's overall commitment to public health guarantees that this opportunity occurs frequently. During this past year, the public exhibition on "Emerging Infections" was complemented by a series of lectures by experts on infectious diseases. All of the speakers and the exhibition were co-sponsored by the Section.

Beginning July 1999, Richard Cohen, Ph.D. and Ann O'Sullivan, Ph.D. will be, respectively, the new Chair and Clerk of the Section. A full agenda lies ahead for the Section including a program on violence with Dr. John Templeton and one on corporal punishment with noted sociologist Dr. Murray Strauss, who will be visiting from the University of New Hampshire on November 3, 1999.

Topics and speakers for 1998–99 included:

.Date	Topic	Speaker	Affiliation
December 16, 1997	The Role of Behavioral Theory in Public Health Practice	Martin Fishbein, Ph.D.	University of Pennsylvania
January 29, 1998	Reception welcoming Jonathan Mann, M.D., MPH		MCP-Hahnemann School of Public Health
January 29, 1998	An Examination of Health and Environment in Neighborhoods in South and Southwest Philadelphia	Tom Burke, Ph.D.	Johns Hopkins School of Hygiene and Public Health
March 31, 1998	A Candid Perspective on Public Health in Pennsylvania	Wanda Filer, M.D.	Former Physician General
May 6, 1998	Poster Session on Public Health		
September 15, 1998	Public Health and the Media	Marian Uhlman Richard Barnes Neil Ticknor Dawn Heefner	*Philadelphia Inquirer* *Philadelphia Tribune* WHYY 91 FM WPVI TV 6
November 3, 1998	Mariners and Medicine: The History of the Public Health Service	John Parascandola, Ph.D.	U.S. Public Health Service
December 2, 1998	Emerging Infectious Diseases	C. J. Peters, M.D.	Centers for Disease Control and Prevention
February 9, 1999	Antibiotic Resistance	Barbara Murray, M.D.	University of Texas
February 24, 1999	The Big Picture: Art and Public Health	Jane Golden	Mural Arts Program
March 16, 1999	Five Priorities for Public Health for the Millennium	David Satcher M.D., Ph.D., C. Everett Koop, M.D.	U.S. Surgeon General
April 21, 1999	Are All Diseases Infectious?	Bennett Lorber, M.D.	Temple University
April 29, 1999	Poster Session on Public Health		

We anticipate that the Section on Public Health and Preventive Medicine will continue its tradition of bringing leading speakers on contemporary public health issues to the Greater Philadelphia area.

WALTER TSOU, M.D., PH.D. CHAIR,
SECTION ON PUBLIC HEALTH AND PREVENTIVE MEDICINE
COLLEGE OF PHYSICIANS OF PHILADELPHIA

Annual Report of the Section on Arts-Medicine

The College Section on Arts-Medicine was founded in April, 1994 in recognition of the rich synergies that exist between the creative and the healing arts. The section's defined goals include bringing together interested Fellows and Non-Fellows to study and promote the relationships between the creative and the healing arts, to develop a vision for the College as a place where health, education and the arts come together, and to attract scholars, artists, performers, and health practitioners who share a concern for the humanistic dimensions of health. Initial programs are being developed around four themes in arts-medicine: (1) the arts in medical and health education, (2) the arts and public health education, (3) the arts in health and medical institutions, and (4) the arts as medical intervention (creative arts therapies). The Section also serves as an expert resource to the College on arts-related matters.

The Section successfully recruited its first officers and executive committee from leaders in Philadelphia's medical and artistic communities. Marjorie Smink, M.S., from the College was assigned as staff liaison to the Section. The Section has attracted diverse members who embrace the concepts inherent in arts-medicine. The Section's first official business meeting took place in conjunction with the Section's first program on November 29, 1995. The Section voted to name F. William Sunderman, M.D. as its Honorary Chair and Richard A. Lippen, M.D. as its first Chair. Our inaugural program featured a lecture and slide presentation by Michael Salcman, M.D., former president of the Congress of Neurological Surgeons, who addressed the topic of "Medical Education in Transition: The Role of the Arts." Since this inaugural program, the Section has organized two or three didactic programs or panel discussions per year. The fall program in 1998 was held in conjunction with the College's Program Committee, to which the Section on Arts-Medicine reports. Program titles have included "Arts Medicine in Philadelphia Medical Education," "Breathing Life into an Academic Medical Center: The Impact of the Arts on a Medical Environment," "The Impact of Medical Events on Artistic Expression/Examples from

Contemporary Careers," "Clinical Application of the Arts in Philadelphia Medicine," and "Modern Surgery as Art." Among the most successful events were a presentation by *J.A.M.A.* cover editor, Therese Southgate, M.D. on "The Cover Art of *J.A.M.A.*: Its Relationship to the Art of Medicine" and a presentation by Jane Golden entitled, "The Big Picture: Outdoor Art and Public Health." This last lecture was co-sponsored with the College Section on Public Health. The Section of Arts-Medicine was very pleased to sponsor two events that took place at the Philadelphia Museum of Art, thus establishing a relationship with one of the premier cultural institutions in the Delaware Valley. The Section also produces an occasional informational newsletter on our events and programs. Future plans for the Section include continued excellence in programming, initiation of on-site health-related art exhibitions, presentations, and performances as well as a longer-range goal of establishing an ongoing, permanently staffed and funded institutional presence of arts-medicine scholarship at the College.

Richard Lippen, M.D., Chair
Section on Arts-Medicine
College of Physicians of Philadelphia

ANNUAL REPORT OF THE SECTION ON MEDICAL ETHICS

The Section on Medical Ethics of the College of Physicians devoted portions of its meetings in 1998–1999 to general discussions of topics in medical ethics of interest to physicians and to the general public within the current environment for the practice of medicine and the delivery of health services. Before summarizing these deliberations, I will note an important development for the College with respect to the field of medical ethics. The College and the Center for Bioethics of the University of Pennsylvania have submitted a significant grant proposal for consideration by the National Library of Medicine. If funded, this proposal for $743,000 will initiate a survey of American biomedical ethics in order to assess the need for further efforts and to develop plans to meet those needs. The proposal was submitted by Marc Micozzi, Executive Director of the College of Physicians, and Arthur Caplan, Director of Penn's Center for Bioethics. As their proposal points out, comments on medical ethics appear in documents from the early eighteenth century. By 1847 America's physicians had already promulgated a national code of medical ethics. Little attention has been paid to the rich and instructive history of ethics in medicine and biology. If funding for this proposal is approved, the College will be a partner in the first major effort designed to rectify this omission in our national and professional history.

The Committee deliberated over the choice of speakers in the field of ethics. Mark Siegler spoke on "The Contributions of Clinical Medical Ethics to Patient Care." His talk was followed, in September 1998, by "Medical Variation and Medical Ethics: Lessons from Small Area Studies," delivered by John Wennberg. Topics for discussion in 1998–1999 included:

- advice to women who have a strong family history of breast cancer
- the concept of rationing health care in a managed care environment

- the future of the marketing of medicine including physician advertisements
- human cloning
- the ethics of end-of-life decisions
- managed care ethics: verity or oxymoron

Donald Young, M.D. has agreed to speak to the College on December 1, 1999 on managed care ethics, and Edmund Pellegrino, Ph.D. will talk broadly about the ethical dilemmas in human genetics on May 10, 2000. This fall the Section will select issues in ethics for discussion during the next year.

Thomas Langfitt, M.D., Chair
Section on Medical Ethics
College of Physicians of Philadelphia

Annual Report of the Executive Director July 1998–June 1999

Presidential Disability Statement

Dr. Kissick recruited an MD/JD student to assist him in preparing a detailed proposal for the College governance advocacy process. Legal research was regarding precedents for the creation of Congressional review boards. Such legislation is essential to establishing a medical panel that could confidentially review issues of presidential disability. Dr. Kissick and members of the College subcommittee on presidential disability met with Senator Specter's Chief Council to initiate the process of legislation.

Wood Institute Chair

In December 1998 Dr. Rhoads informed the College that the Measey Foundation had appropriated $400,000 toward the position of Director of the Wood Institute and Professor of Medical History. These funds have allowed us to begin redeveloping the Institute's financial and intellectual vigor by increasing the operating budget as well as the endowment that has supported the Institute's activities over the past twenty-three years. In January, College President Dr. Lee asked Dr. Charles Rosenberg to serve as Chair of an ad hoc Search Committee. This committee began meeting in February under the new Chairman and with additional representation from the College Section on Medical History. Several highly qualified candidates have already expressed interest in the position. Dr. Rhoads and the Wood Committee unanimously recommended that the Measey grant be utilized as an addition to the existing Wood Fund endowment. Dr. Rhoads further suggested that by increasing income from the Wood Institute from 5% to 7.5% and by adding the Measey funds, it should be possible to maintain the new position at the level of the "competitive and negotiable" compensation stipulated by the current recruitment document. The committee also understands that Wood Institute programs will be critically reviewed with the new incumbent in place and that some may be per-

manently or temporarily discontinued in light of program and budget issues.

Library Fund

Drs. Albert and Lorraine Kligman committed the lead gift of $150,000 for the Library Fund. The College received the second installment of this gift in November 1998. Matching contributions to the Library Fund were requested from the Lewis Circle members. As Chair of the Lewis Circle, Dr. Luigi Mastroianni doubled his annual contribution and released a communication to the members of the Lewis Circle asking for matching support. Most responded favorably to a year-end appeal.

In order to more effectively address the conservation needs of our rare books, we are identifying the most valuable holdings of the Library and suggesting that contributions be made for the preservation of specific volumes. Donors in this program will be permanently acknowledged in the Library's catalogue as part of the specific book's record.

As described elsewhere, the federal Institute for Museum and Library Services (IMLS) awarded the College a National Leadership Grant. The initial award is $175,000 and will be administered as a mutual cooperative agreement with the College. In addition the College will submit a second proposal to IMLS in 2000 for a conservation and interpretation project. The Connelly Foundation continues to be a source of support for the Library Fund. The William Penn Foundation requested that the College submit a proposal for additional library conservation funds. This was done in February. In July 1999 additional presentations were made to the Pew Foundation and to the Smith Kline Beecham Community Partnership.

Negotiations were completed with Childrens' Hospital for support of the Radbill Collection with annual escalation costs. The College received funds in November 1998 and the physical transfer has been completed by a library cataloguer who had worked with the collection previously.

Museum Fund

Dr. John Templeton has committed the leading matching gift of $75,000 to the Museum Fund. It will be paid in three equal installments over the next three years based upon a 2:1 match from the

Mütter Associates. The President, Development Director, and Director of the Mütter Museum worked with the Mütter Associates to obtain the matching gift amount. Former College President Lewis Coriell took the lead in meeting Dr. Templeton's challenge. A meeting was held with Dr. Templeton to inform him of our progress in obtaining matching funds and to encourage him to provide his first-year gift to the College based upon matching support received from a local foundation as well as the Mütter Associates. A full-time collections manager has been hired by the museum under the terms of this fund.

Fundraising Progress Report

The cultivation and receipt of grants continue for the Library, the Museum, and other programmatic areas of the College. We have identified sources of support for preservation of our historic building. A proposal to repair the leaded glass windows in Mitchell Hall has received funding. Another proposal to complete the HVAC cleaning and repair was funded by the Arcadia Foundation. The cleaning and lighting of individual portraits continued with support from Dr. Fisher. Further support is anticipated from the Section on Ophthalmology.

The College will request major facility funds in 1999 through the EDA program designed to prepare Philadelphia for the Republican Convention in July 2000 and through the health facilities budget in HRSA and DHHS. A meeting will be held to coordinate federal efforts with initiatives by the city of Philadelphia.

Library Physical Facility

The process of upgrading the heating, ventilation and air conditioning (HVAC) for the Library collections facility (stacks) was reviewed by the President and staff for the Finance, Executive, and Administration/Building & Grounds Committees. Upgrading the physical environment is being addressed as an integral component of the conservation and preservation work. The first step in this process, cleaning and repair of the HVAC for the library collections facility (stacks), was completed during the summer on time, under budget, and with good results. Based upon this experience, we will continue the cleaning and repair of the HVAC system for the remainder of the College building.

Public Services and Physician Volunteer Program

In response to the interests of both retired and active members of the College in volunteering in local community clinics, the College has proposed to organize and implement a physician outreach program based upon an existing and funded project with Philadelphia Health Services for the provision of health information services through the Koop CHIC to federally-qualified community health centers in Philadelphia. Management and four Fellows interested in the program, Drs. Edward McGehee, Truman Schnabel, Bill Bluemle and Charles Lee, met with medical staff at the Public Health Service to develop realistic needs, expectations and goals. We have requested a VISTA volunteer to staff this program through the organization's national office and Andrea Kenyon, Director of Public and Library Services, has applied to the local VISTA office for a volunteer coordinator to begin in the fall of 1999.

The Division of Public and Library Services has also received five-year funding from Congress for the Koop CHIC, starting in the FY'99 budget. This money is intended to implement the results of the C.D.C.'s ongoing evaluation of CHIC, to strengthen CHIC's operations and to disseminate the CHIC model to other medical societies throughout the country. On March 16, 1999, Surgeon General Satcher articulated the terms of the C.D.C.'s support for the Koop CHIC, when he visited the College and was introduced by Dr. Koop.

Annual Report on Public Relations

Public relations activities during this reporting period included a mix of special projects and the routine promotion of selected College programs and services for the public. Highlights of both sorts of activities appear below:

A. "Public Health and the Media"

Many members of the College's Section on Public Health and Preventive Medicine have been frustrated by the failure of local media to cover stories that they considered important. They have been puzzled by the criteria journalists use to select the stories they do cover and are uncertain about how to most effectively convey their suggestions for stories that they would like to see covered in the future. In order to address these concerns, public relations organized a program in which producer Dawn Heefner of Channel 6 News, medical reporter Neil Tickner of WHYY Radio, and health reporter Richard Barnes of the *Philadelphia Tribune* explained the priorities and goals of their respective news organizations. During the lengthy question period and informal exchanges which followed, Section members took advantage of the opportunity to make contacts, ask questions, and voice opinions about the coverage of public health activities in the Delaware Valley.

B. The College Visit of Senator Robert J. Dole

As a former presidential candidate, the longest-serving Majority Leader in the history of the U.S. Senate, and someone who has been honored with the nation's highest civilian honor, the Medal of Freedom, Senator Dole is considered one of the most influential figures in the field of health policy. Working together with people at Pfizer Pharmaceuticals, with Pfizer's outside public relations counsel, and with colleagues at the Institutional Advancement Division, public relations coordinated the scheduling, logistical, and programmatic aspects of the Senator's visit. The success of this visit increases the likelihood that the College and Pfizer will be partners in other initiatives in the future.

C. The Philadelphia Inquirer *Polio Project*

Ms. Huntly Collins of the *Philadelphia Inquirer* Health and Science unit developed the idea for a major series focusing on the final stage of the global effort to eradicate polio. One goal for the series was to help readers understand what it was like to live in Philadelphia during the time that this disease was still a threat. A second was to convey how members of the local scientific community contributed to the effort to develop a vaccine for the disease. As part of the research for the series, public relations pre-interviewed a number of College Fellows about their activities during this period and facilitated contacts with the Fellows that Ms. Collins decided to interview. A complementary television documentary produced under the auspices of *The Inquirer* included footage shot at the College.

D. WHYY Exhibition Spots

One of the major activities of this reporting period was the use of a mixture of fee and paid publicity to promote the College's new Gallery Exhibition, "Emerging Infectious Diseases: Ancient Scourge and Modern Menace." In order to execute this mandate, public relations worked with three different producers at WHYY to create spots promoting the exhibition. Audrey Foltz produced four sequences for "Science Week" on the station. These called attention to the key scientific and medical themes articulated by the exhibition. These spots were obtained at no cost to the College. A second producer at WHYY, Cynthia Kreilick is responsible for "Community Connection" spots produced by the station. Three exhibition-related television spots were produced for her series including one that featured the College's President, Dr. Charles T. Lee, Jr. Since it is important that free and paid promotional activities complement one another when possible, public relations worked with WHYY Radio to create a paid advertisement promoting the exhibition. This advertisement was aired during such major attractions as NPR's "Morning Edition" and "All Things Considered."

E. KYW Radio

In the world of commercial radio in Philadelphia, few stations attract more listeners than all-news KYW, a CBS station. Working with Anchor/Health Reporter Brenda Jourett, two separate, but complementary, stories about the Gallery exhibition were pro-

duced. The two stories were broadcast repeatedly on the station during a weekend so that they would reach families and others at a time when they were most likely to be looking for something to do.

F. Medical News Tribune

This national publication reaches an audience of 160,000 physicians and reaches additional non-subscribers through its web site. Staff writer Jody Charnow did an in-depth feature on the infectious disease exhibition. She did an excellent job of reporting on the major themes of the exhibition as well as on its actual content.

Richard Levinson

Financial Report of the College of Physicians of Philadelphia 1997–June 1998

I. Commentary

The College experienced mixed financial results during the fiscal year 1998. The College's revenues of $3,295,889 were slightly lower than the previous year and were offset by expenses of $2,508,916, which were also lower than the previous fiscal period. Specifically, operating revenues generated by facilities rental and library services decreased, while revenues from contributions and fellowship dues increased. Total assets for the year were $13,356,728, which represented a 6.4% increase over 1997 totals. This increase was attributable, primarily, to the increased value of investments held by the College.

Revenues and costs associated with the C. Everett Koop Community Health Information Center (Koop CHIC), the Mütter Museum, and the College Gallery remained steady. College initiatives aimed at cost control were effective in reducing overall operating expenses.

The Financial data detailed below is excerpted from the reviewed financial statements prepared by the College's external auditors, MacDade Abbott, LLP.

II. Financial Data

Operating Statement

Revenues	
Membership Dues	$ 338,089
Contributions and Grants	689,312
Facility Rental and Parking Lot Lease	385,949
Endowment Proceeds	1,445,238
Services Provided	437,301
Total Revenues	$ 3,295,889
Expenditures	
Programs and Services	$ 1,041,147
Plant and Depreciation	246,253
Benefits and Payroll Taxes	220,553
Management, Accounting, Overhead & Development	1,000,963
Total Expenditures	$ 2,508,916

Balance Sheet (June 30, 1998)

Assets	
Cash	$ 118, 503
Accounts Receivable (net)	69,305
Notes Receivable (net)	25,261
Investments (cost)	10,098,829
Other Assets	347,657
Buildings, Furnishings, and Equipment (net)	2,697,173
Total Assets	$13,356,728
Liabilities	
Accounts Payable	$ 339,953
Other Liabilities and Accruals	259,092
Total Liabilities	$ 559,044
Net Assets	
Unrestricted (mostly property)	2,406,180
Temporarily restricted	4,345,545
Permanently restricted	6,005,959
Total Net Assets	$12,757,684
Total Liabilities and Net Assets	$13,356,728

Annual Report of the Katherine A. Shaw Division of Library and Public Services July 1998–June 1999

The Katherine A. Shaw Division of Library and Public Services includes the Modern and Historical Libraries, the C. Everett Koop Community Health Information Center, the College Gallery, the Mütter Museum, the Reception Desk and Gift Store, Information Systems, and Special Events (Facilities Rental).

The C. Everett Koop Community Health Information Center (CHIC)

The CHIC continued to provide the public with free access to a broad spectrum of current information on medicine, health maintenance, disease prevention and health care services. The culturally diverse collection of materials includes books, journals, newsletters, videos, computer databases, CD-ROM products, Internet access, and pamphlets for adults, youth and children in both English and Spanish. Approximately 2,000 people visited CHIC. This was lower than last year due to a reduction in hours and staffing. The CHIC was open to the public Tuesday through Saturday from 10 A.M. to 4 P.M. until December 15th when CHIC hours were reduced to Tuesday through Friday as a cost-cutting measure. Staff reductions and departures also impacted on CHIC operations. Mary Laskow, Reference and Document Coordinator, reduced her hours to 3/4 time in February and resigned in April. A hiring freeze has prevented the filling of the Reference and Document Coordinator's position. The CHIC was staffed Wednesday through Friday by Delcina Esser, part-time reference librarian. Visitors to the CHIC totaled 2,046 in FY1999. Currently fifty-four CHIC subscribers pay an annual membership fee of twenty dollars to borrow materials from the CHIC collection. Modern reference services included online

computer literature searches, in-depth reference questions, and queries regarding College Library collection holdings.

The Centers for Disease Control and Prevention completed its evaluation of the CHIC as a national physician-based model for the provision of health information. The College assisted the CDC with this evaluation by conducting an on-site user survey to determine how visitors hear about CHIC, where they obtain their health information, their satisfaction with CHIC's services, and their willingness to pay for these services. Focus groups were conducted with intermediaries that interact with the general public, including school teachers, librarians, social workers, home health workers, and corporate wellness programs to determine the CHIC's value to them and to the populations they serve.

The evaluation assessed (1) the effectiveness of CHIC's products and services from the user's perspective; (2) usage patterns of CHIC's products and services and barriers to their use; (3) the effectiveness of collaborative arrangements with nonprofit organizations, corporations, libraries, government agencies, and voluntary health agencies; and (4) the quality of CHIC's products and services in terms of currency, accuracy, readability, organization, and cultural diversity. The evaluation concluded that CHIC has the best collection of medical research information geared for consumers in the greater Philadelphia area. The CHIC facility was praised for being well arranged and for maximizing access to information. CHIC's staff was found to be knowledgeable and helpful. The evaluation recommended that CHIC improve its marketing efforts, enhance its website, and re-institute weekend hours. The CDC study will help CHIC to improve its services and enable other physician-based health information centers to learn from the College's experiences in providing consumer health information to the community.

The College continued its efforts to integrate the information resources of the CHIC with the educational opportunities provided by the Mütter Museum and the College Gallery. CHIC staff developed information fact sheets on infectious diseases and food safety to complement the College's Gallery exhibition "Infectious Diseases: Ancient Scourge and Modern Menace." These fact sheets, which are available in the Gallery, provide additional information on health issues raised by the Gallery exhibition, including references to pertinent books, pamphlets, articles, and Internet sites. Signs were placed throughout the Museum and Gallery encouraging visitors who wanted more information about specific topics discussed in the exhibition area to stop by CHIC.

Mütter Museum and College Gallery

Visitors and Income

The total number of visitors for FY1999 was 19,015, compared with 20,181 for FY1998 and a considerable decrease from the peak of 24,221 in FY1997. Revenues also diminished slightly, dropping to $93,135 from $96,668 the previous year. No single reason is apparent for the recent decreases, as there was no change in hours or admission fees during the past year other than the discontinuation of the family rate in May 1999.

College Gallery Exhibits

"Emerging Infectious Diseases: Ancient Scourge and Modern Menace" opened on October 20, 1999. The College organized a lecture series for the 1998–99 season on topics related to infectious diseases and had invited Jonathan Mann as the opening-night speaker. Unfortunately, he and his wife were killed in the Swissair crash near Nova Scotia on September 2, 1998. The season's first speaker was Mütter Lecturer C. J. Peters, M.D. on December 2, 1998, followed by Barbara Murray, M.D. on the subject of anti-microbial resistance on February 9, 1999. The final speaker in the series was Bennett Lorber, M.D. on April 21, 1999; he discussed "Are All Diseases Infectious?"

The Presidential Health exhibition was reduced in size and reinstalled in the Mütter Room of the Museum to meet the continued interest in the subject demonstrated by visitors and Fellows alike. The new exhibition is primarily pictorial, since all loan objects were returned. Nonetheless, portraits, letters and the tumor removed from President Grover Cleveland's jaw continue to pique the interest of visitors and draw their attention to the ongoing controversy over the adequacy of the Twenty-First Amendment to the Constitution of the United States of America.

Reception Desk and Gift Shop

Receptionist Dori Panzer resigned in February 1999. Public Services and College Administrative Support staff covered the desk until a hiring freeze was lifted and Stephanie Hicks was engaged for the position in mid-May. The gift shop continues to provide postcards, books, and an assortment of medically-related items for sale.

C. J. Peters' book, *Virus Hunter*, was added to the gift shop inventory to coincide with the exhibition on infectious diseases.

Mütter Museum

Special Exhibits

An expanded exhibition on Laura Bridgman (1829–1889), the celebrated deaf-mute, was prepared by volunteer Amber Bainbridge and installed in June 1999 in the neurology section of the Museum. The Museum has had a plaster cast of Laura's brain since it was donated in 1932. Additional items were borrowed from the Perkins Institute for the Blind, where Laura lived, and from the Overbrook School for the Blind in Philadelphia, including materials used to teach the blind to write and a wool doily crocheted by Laura Bridgman.

Mütter Museum 2000 Calendar

After a hiatus of four years, the decision was made to resume publication of the museum calendar. The College published calendars in 1998 and 1999 with images from the Museum, the Library, and the College's art collection by Philadelphia photographer Jack Ramsdale. The Mütter calendar will feature work by many of the photographers who contributed to the first four issues: Joel-Peter Witkin, Rosamond Purcell, Max Aguilera-Hellweg, Scott Lindgren, Arne Svenson, and Olivia Parker. It will be distributed nationally through bookstores and will also be available at the College reception desk and by mail order.

Staff Activities

The position of Collections Manager, vacant since Lynn Brocklebank resigned in January 1997, was filled in September 1998 with the hiring of Margaret Lyman. Margaret received her M.A. in Museum Studies at the University of Nebraska-Lincoln. Her most recent experience was as registrar at the Atwater Kent Museum in Philadelphia. Before that she was curator and registrar at the Silver City Museum in Nevada.

Collections Management activities included the reinstallation of the Presidential health exhibit, arranging photographic rights and reproductions for the Infectious Diseases exhibit, creating comput-

erized logs for accessions, objects received, loans, photographic permissions requests going back to 1996, reformatting storage inventory files, assigning new location codes to storage areas, and managing incoming and outgoing loans and photo requests. In addition, the Museum and Library staffs have begun discussing a mutually accessible computer catalogue for the Museum.

Director Gretchen Worden attended the annual meeting of the European Association of Museums of the History of Medical Sciences in Leeds, England and the American Association of the History of Medicine meeting in New Brunswick, NJ. Ms. Worden was elected President of the Medical Museum Association at its meeting in New Brunswick, NJ. In addition, Ms. Worden attended the annual conference of the National Museum of Civil War Medicine in Frederick, MD.

On March 19 and 20, 1999, the College hosted the Sixth National Convention of the Society of Civil War Surgeons. Museum Director Gretchen Worden, a member of the Society's Board, served as local organizer. Papers were presented on Friday and Saturday at the College, followed by a banquet and ball at the Union League on Saturday night and a bus tour of Philadelphia civil war medical sites on Sunday morning. Approximately 80 historians and medical reenactors attended. Charles Greifenstein, Curator of Archives and Manuscripts, gave a presentation on Philadelphia military hospitals during the war, many of which were highlighted on the bus tour the following day. Two medically oriented vendors sold Civil War period books, prints, and antique medical instruments.

Lectures presented by the Director of the Museum included "Walt Whitman and the Civil War" at the National Museum of Health and Medicine's "Civil War Days"; "The Soap Lady and other Medical Marvels" at the Union League Library Hour; a historical overview for the College's Women's Committee on the occasion of the Museum's 140th anniversary; "Insects and Medicine" at the Philadelphia Insectarium; "Madame Curie visits the College of Physicians" at the American Academy of Health Physics Awards luncheon, and "Transvestite Women Physicians" at the Right Angle Club and the West Jersey Medical Society.

In collaboration with the Director of Public Services and the Director of Development, Museum staff prepared and submitted grant proposals for conservation of the Museum's wet specimen collections to the U.S. Department of the Interior's "Save America's Treasures" (not funded), a proposal for general operating support to the Pennsylvania Historical and Museum Commission, and a

museum/school education program to the U.S. Department of Education's Fund for Improvement of Education.

Mütter Lecture

C. J. Peters, M.D. delivered the 95th annual Thomas Dent Mütter lecture on December 2, 1998, on the topic "Hantaviruses: North to South." Dr. Peters is Chief of Special Pathogens at the Centers for Disease Control in Atlanta, Georgia. Since 1993, he has directed the C.D.C.'s investigation and control work on Hantavirus pulmonary syndrome in the United States. He is also the author of *Virus Hunter*.

Templeton Pledge/Mütter Associates

Dr. John M. Templeton, Jr., chairman of the Mütter Associates, pledged $25,000 a year for three years to support collections management activities in the Museum. His pledge was to be matched by $10,000 from other sources, a challenge which was met by contributions from Mütter Associates Dr. Charles T. Lee, Dr. Robert H. Bradley Jr., Mr. J. Robert Schietinger, and an especially generous contribution from Dr. Lewis L. Coriell.

Reed Foundation Grant

The Museum received a grant for $5,000 from the Peter S. Reed Foundation in New York City for cataloguing and rehousing the museum's historic photograph collection. The grant was made possible through the personal interest of the Foundation president, Arne Svenson, who is also one of the contributors to the Mütter calendar.

Nora S. Jones, a graduate student in visual anthropology at Temple University, processed approximately 2,300 prints and daguerreotypes dating from 1847 to 1960. The information was recorded on worksheets and can be entered into a computer database when the museum acquires a computerized cataloguing system.

Publicity and Outreach

The Museum, Gallery, Koop CHIC and medicinal plant garden received yearlong publicity from an illustrated listing in the 1998–1999 *Bell Atlantic Yellow Pages*. The Travel Channel did a feature on Philadelphia in July 1998 for which we provided slides of the museum showing the giant and dwarf skeletons and Chang and

Eng. The twins were also the subjects of a July 1998 article in *Biography* magazine that mentioned the Museum and interviewed Dr. John M. Templeton, Jr. Chang and Eng were also the focus of a December article in *FATE* magazine. In a November 6, 1998 article in the *Philadelphia Daily News* about places the Republicans should visit during their convention in 2000, the Museum was fifth in a list of ten, behind the Art Museum and City Hall. The November 1998 issue of *Orthopedics Today* reviewed a book on Chinese footbinding and included a photograph of the Museum's specimen. The Museum was featured in an article in the February 24–March 2, 1999 *Northeast News Gleaner*. It was also included in a September 4, 1998 *New York Times* article on four unusual museums to visit in the New York area. Photographs and a description of the collections were highlighted in the March 1999 newsletter of the American College of Obstetricians and Gynecologists as part of a promotion for their May 1999 Annual Clinical Meeting.

Documentaries for television broadcast made considerable use of the collections this past year. In the fall, crews from the BBC filmed Chang and Eng and other items for a program on conjoined twins and the skeleton of Harry Eastlack for a documentary on fibrodysplasia ossificans progressiva and the current groundbreaking research on its cause and cure being pursued at the University of Pennsylvania. Lucky Duck, a production company owned by journalist Linda Ellerbee, also filmed Chang and Eng and other material for a documentary on the Philadelphia-area conjoined twins, Lori and Reba Schappell. Atlas Media filmed Chang and Eng and President Grover Cleveland's tumor for a History Channel program called "History Lost and Found." The Medical Broadcasting Company used a photograph of Dr. Matthew Moore doing a transorbital lobotomy for a video on Zeldox.

The Infectious Disease exhibition was favorably reviewed by Julia Klein in the December 16, 1998 *Philadelphia Inquirer*, and was featured by Gerald Kolpan in the October 31, 1998 broadcast of Fox TV's *Ten O'Clock News*. WHYY's Chris Spurgeon used two areas of the exhibition and the doctor's office in the Museum to introduce programs during PBS's Science Week in January 1999. The exhibition was also featured in a two-page spread in *The Medical Tribune* on February 18, 1999.

The 1999 College Calendar was recommended in an article on calendars in the December 17–21, 1999 issue of *Time Out New York*. The Mütter Museum 2000 Calendar was also previewed by the *Philadelphia City Paper* in June 1999.

Loans and Acquisitions

Outgoing loans included nebulizers and an eighteenth-century acupuncture figure to the National Library of Medicine for an exhibition on asthma and a glass ball pessary to the Maryland Science Center for a traveling exhibit on women's health. Incoming loans for the Infectious Diseases exhibition in the College Gallery included a Level 4 Environmental Suit from the C.D.C., material relating to Legionnaires' Disease from Drs. Sheila Moriber Katz, Robert Levenson, and David Fraser, and from the National Museum of American History. Early examples of penicillin and Neoalvarsan were borrowed from the Marvin Samson Center for the History of Pharmacy at the University of the Sciences in Philadelphia.

Items received for possible accession included the following: a gastric camera and accessories used by Leon Frankel, M.D., a Philadelphia gastric surgeon, donated by Mary Frankel; a child's leg brace from 1903–4 from Maxine Schwartz; a variable cross cylinder from Robert Reinecke, M.D.; a human skull from Mrs. Howard S. Miller and Mrs. Belle Kolander; a pneumothoracic and pneumoperitoneal machine from Ellwood S. Paisley, M.D.; an acupuncture figure and booklet from Mrs. Reba Pressman; seven fetal skulls, a fetal skeleton, two mummified infants' heads, a mercury vapor lamp, and a large bladder stone from Halbert E. Fillinger, M.D.; S. Weir Mitchell's fly fishing rod, from James B. Snow, Jr., M.D.; and seven human mandibles originally belonging to Dr. Oscar Batson, from Dori Panzer.

Annual Report of the Library July 1998–June 1999

The highlight of the 1998–99 year for the Library of the College of Physicians was the award of a National Leadership Grant from the federal Institute of Museum and Library Services (IMLS) for conservation of elements of the historical collection over a two-year period. The $175,000 award was a strong start for the new Library Preservation Fund. As part of the grant, deteriorating rare books and the Sturgis Print and Photograph Collection are being rehoused and cataloged. Example pages of these collections will be scanned and mounted onto the College's website to advertise the conservation project. Marjorie Smink, Director of the Library and Project Director of the grant, and Charles Greifenstein, Curator of Archives & Manuscripts, are working together on this project with Christopher Stanwood, Historical Reference Librarian.

The Ashhurst Reading Room and the Historical Reference Desk were open to the public Tuesdays through Fridays from 10 A.M. to 4 P.M., by appointment only. However, Fellows had access to the Reading Room, without an appointment, Tuesdays through Fridays from 9 A.M. to 5 P.M. The following activity was recorded for historical reference in FY99: 586 in-house visits were registered for people who used the library's historical collections. Additional reference questions were answered for over 300 phone calls and 220 letters, e-mail and telefacsimile messages. 4,000 items were retrieved from the library stacks and 1,300 items were obtained from the College's rare book storage area for patron use. Types of users of the Historical Library were: Fellows—16%, physicians—14%, academic historians—14%, graduate students—14%, undergraduate students—8%, librarians/archivists—6%, other academics—5%, historians—4%, writers—4%, medical students—2%, publishers—2%, and genealogists—2%. About 50% of the items requested from the stacks were journals, 40% were books or pamphlets, and 10% were manuscripts. 90% of the library's patrons came from the Mid-Atlantic region, while 10% came from the rest of the United States and foreign countries. Twenty-one rare book displays and tours of the collections were offered. The Reading Room served a

total of 1,000 historical and modern library users, the same number as last year.

Technical Services/Acquisitions

The Technical Services Department cataloged and processed one thousand items (monographs, pamphlets, monographic serials, journals, and videos) during the year: 380 were items for the Historical Library and 304 items for the Modern Library including the C. Everett Koop Community Health Information Center. The Samuel X Radbill, M.D. Historical Library of the Children's Hospital of Philadelphia was deposited in the College's Library in December and 552 items from this collection were cataloged and entered into the shared library catalog. About 200 journals are currently received, although the College owns holdings of over 21,000 journal titles. Keeping the College's holdings up-to-date via the online catalog and specific union lists is another important responsibility of the Technical Services Department. Joan McKenzie, Coordinator for Technical Services, has also served as the College's Coordinator for Technology after the departure of Kevin Crawford in December, 1998. Laura Guelle is the Radbill Collection Cataloger.

Document Delivery/Interlibrary Loan

The Document Delivery Department provided 13,678 photocopied journal articles and book chapters to health science clients all over the world. Members of the Document Delivery Department staff are Document Delivery Clerks Patricia Filemyr and Sharon Lutes as well as new employee Janet Taylor, Document Delivery Clerk/Serials Assistant. Use of the Electronic Fund Transfer System simplified the billing process for articles and books exchanged over the National Library of Medicine's DOCLINE system. The Blackbaud billing system was introduced to the College during this year. Interlibrary loan circulation of books and journals numbered 717 items. The College Library's collections continue to be a major source of health science information regionally, nationally, and internationally.

Manuscripts and Archives/Acquisitions

Charles Greifenstein, Curator of Archives & Manuscripts, reports that four manuscript collections were donated to the Historical Li-

brary and have been accessioned by the curator. The patient records of Francis C. Wood, M.D., from the 1930s through the 1980s, were donated by his son, Francis C. Wood, Jr., M.D. These records, comprising 27 linear feet, will be sealed to researchers until the year 2050. Dr. Wood's patient records complement the earlier donation of his personal papers. Other manuscript donations include the two-volume personal health correspondence course from 1937 of William T. McCall, M.D.; the papers of Norman Learner, M.D.; and patient records from the Hospital of the University of Pennsylvania, 1880 to 1936. The papers of Robert S. Pressman, M.D., President of the College from 1984–1986 were also donated by his wife, Reba, during this year.

The Samuel X Radbill, M.D. Historical Library of the Childrens Hospital of Philadelphia was deposited at the College in December, 1998. This collection remains the property of Children's Hospital but will be administered and maintained by the College Library. It consists of about 2,700 books and 32 linear feet of research materials. The book collection contains 1,809 titles, of which twenty-five percent are rare and will be housed in the College's Rare Books Cage. The collection reflects Dr. Radbill's research interests: ancient and modern pediatric history, child abuse and child welfare, obstetrics and gynecology, children and medicine in art and literature, and bookplate collecting. The bulk of the collection focuses on nineteenth-century medical textbooks for the treatment of childhood diseases and nineteenth-century popular guides for the proper raising and care of infants and children. Research materials include Dr. Radbill's personal research notes, manuscripts and typescripts, numerous journal article reprints, photographs, correspondence, and bookplates.

The Curator has established a College records management program, starting with an inventory of each department's files. About 10 cubic feet of College files were received during the past year and are still being processed.

Exhibitions

A leaflet on medicinal cocaine from the Medical Trade Ephemera is on loan to the National Library of Medicine's "Breath of Life" exhibit, March 23, 1999 to June 30, 2000. Charles Greifenstein, Marc Micozzi, Executive Director, and Marjorie Smink attended the opening of that exhibit. Three other exhibits (two at the Philadel-

phia Museum of Art and one at the Folger-Shakespeare Library in Washington and Dickinson College Library in Carlisle, Pennsylvania) will be using materials from the historical collections.

The November 11, 1998 cover of the *Journal of the American Medical Association* (*JAMA*) was a woodcut of a Renaissance sick room from the *Fasciculus medicinae* by Joannes Ketham (1495) from the College's collection. M. Therese Southgate, *JAMA* cover editor, chose this image after visiting the College on a speaking engagement and investigating the collections.

The following items from the historical collections are exhibited in the "Emerging Infectious Diseases" exhibition in the College's Gallery: Antoni van Leeuwenhoek, *Arcana naturae* (1696); Robert Hooke, *Microscopic observations* (1780); a copy of Hippocrates' *Libri epidemiorum* (1550); Gentilis Fulginas (Gentile of Foligno), *Gentilis Fulginatis Medici illustris contra pestilentiam consilium;* Daniel Defoe's *The history of the great plague in London* (1754); Joannes de Ketham, *Fasciculus medicinae* (1495); Hieronymus Brunschwig's, *Das buch der cirurgia* (1497); Edward Jenner, *An inquiry into the causes and effects of the variolæ vaccinæ* (1798); Thomas Jefferson's letter to John Redman Coxe on smallpox vaccination (1802); Josepha Grünpeck, *Tractatus de pestilentiali* (1496); Benjamin Rush, *An enquiry into the origin of the late epidemic fever in Philadelphia* (1793); William Currie, *A description of the malignant, infectious fever prevailing at present in Philadelphia* (1793); Matthew Carey, *A short account of the malignant fever, lately prevalent in Philadelphia* (1793); and Benjamin Rush, *An account of the bilious remitting yellow fever* (1793).

Library Advisory Committee

The Library Advisory Committee, chaired by Robert Reinecke, M.D. and composed of about twenty Fellows and staff members, met on November 2, 1998 and May 4, 1999. Each meeting included a display of rare books and museum artifacts that explored a specific strength of the library and museum collections. November's meeting focused on ophthalmology, while May's meeting centered on obstetrics and gynecology. The IMLS grant award and the cataloguing of the Samuel X Radbill, M.D. Collection were announced at these meetings. Guidelines for accessioning gifts of rare books and manuscripts were determined. The Library's vast dissertation collection was discussed in terms of the cost for off-site storage. The

committee approved the search for a new home for the uncatalogued European dissertation collection (published from 1900 to 1986) and their removal from off-site storage.

Lewis Circle

The Lewis Circle was founded nine years ago to support the Historical Division of the Library's acquisition of rare books and manuscripts. Under the leadership of Eugene Flamm, M.D. (1997–98) and Luigi Mastroianni, M.D. (1998–1999) the circle's thrust has been enlarged to include conservation efforts aimed at the Library's historical collections. This year's monetary donations to the Lewis Circle have gone toward an Adopt-A-Book Program. Approximately twenty-five exemplary but deteriorating rare books have been re-housed in this program. These books and proposed conservation methods were displayed at the recent reception for Lewis Circle members held on June 2, 1999. During this event, members of the College staff spoke to the Lewis Circle on the College's Library Preservation Fund, Preservation Plan, and IMLS grant progress. Charles Rosenberg, Ph.D., Chair of the Wood Institute Search Committee, described the current search for the new Director of the Francis C. Wood Institute and Chair in Medical History.

PACSCL

The Historical Library of the College maintained its membership in the Philadelphia Area Consortium of Special Collections Libraries (PACSCL). Charles Greifenstein and Marjorie Smink are members of the Executive Board of PACSCL. They hosted the quarterly meeting of the Board at the College in March with a tour of the building and a display of rare books.

HSLC

The College library maintains its membership in the Health Science Libraries Consortium (HSLC). Its automated catalog is shared with five libraries from the consortium: Hershey Medical Center of the Penn State Geisinger Health System, Philadelphia College of Osteopathic Medicine, Temple Health Sciences Center, and the University of the Sciences in Philadelphia. Marjorie Smink is the current President of the Board of Directors.

Staff

Library staff members were involved in continuing education and other professional activities. Charles Greifenstein, Curator of Archives & Manuscripts, attended three workshops: "Digitizing Collections—A Practical Approach," "Introduction to Encoded Archival Description (EAD)," and "Web Page Design–Front Page '98." He also attended two professional conferences: the Mid-Atlantic Regional Archives Conference (MARAC) in October 1998 and the American Association of the History of Medicine in May 1999. The Curator is currently Editor of the *Mid-Atlantic Archivist,* the MARAC newsletter. At the Society of Civil War Surgeons annual meeting at the College in March 1999, he presented a talk, "Philadelphia and Its Hospitals During the Civil War."Christopher Stanwood, Historical Reference Librarian, attended two workshops offered by HSLC: "Basics of Web Page Design" and "Web Page Design—A Further Look." Joan McKenzie, Coordinator for Technical Services, attended the following professional workshops: "Evidence-Based Health Care in Action," "DRA Acquisitions Module Training," "Windows NT 4.0: System Administration," and "LITA Regional Institute: Nuts & Bolts of Z39.50." She also attended the PALINET Annual Membership Meeting in October and the PALINET OCLC Users' Conference, "Change: Meeting the Challenge with Choices" in May. Sofie Sereda, Administrative Assistant, attended the workshop, "DRA Acquisitions Module Training." Marjorie Smink was awarded Distinguished status in the Academy of Health Information Professionals of the Medical Library Association. She attended the workshop, "Introduction to Encoded Archival Description (EAD)" and the annual meeting of the Archivists and Librarians in the History of the Health Sciences. Other Library staff members include Laura Guelle, Radbill Collection Cataloger, as well as Document Delivery Staff members Pat Filemyr, Sharon Lutes, and Janet Taylor. The Library accepted the resignations of Mary Laskow, Supervisor of Modern Reference and Interlibrary Loan/Document Delivery; Tonya Tate, Coordinator for Document Delivery; and Marita Williams, Document Delivery Assistant.

Annual Report of the Francis C. Wood Institute for the History of Medicine July 1998–June 1999

During 1998–99 the search for a Director of the Francis C. Wood Institute and Chair in Medical History was initiated with the expectation that the position will be filled by January 2000. Although no director was in place, the library and museum staff carried on certain functions of the Wood Institute.

Symposia

In cooperation with the Library Company of Philadelphia and the College of Physicians, the Wood Institute for the History of Medicine sponsored a conference on "popular medicine" in early America. Borrowing the title of the earliest American home health advisory, "Every Man his Own Doctor," the Library Company had assembled a thoughtful and provocative exhibition of medical self-help advice from the 1730s to the early twentieth century. Over one hundred books, pamphlets, broadsides, and labels conveyed the vigorous enthusiasm elicited by this "alternative medicine" of another era.

On October 3, 1998 a day-long symposium was held at the College with a reception at the Library Company that evening. Scholars Steve Shapin, Ph.D. and Mary Fissel, Ph.D. explored the roots of nineteenth-century beliefs and attitudes toward health as far back as pre-Restoration popularizations of Aristotle and the personal practices of René Descartes. Don Yoder, Ph.D., Steven Stowe, Ph.D., and Thomas Wolfe, Ph.D. described popular practice in three very different venues: among the Pennsylvania Dutch, on Southern plantations, and in the private practice of Samuel Thomson's adherents. William Helfand provided a vividly illustrated discussion of "Drugs, Advertising, and Medical Understandings," which was followed by Thomas Horrocks', former director of the Historical Library and the Wood Institute, lively exploration of

health-related information in the American Almanac. Ronald Numbers, Ph.D. gave a talk on the well-known health promoter J.W. Kellog's stance on sexuality. Past Wood Institute Scholar-in-Residence, Michael Sappol, Ph.D. presented his research on another reformer, E. B. Foote, who also made good business out of good health. Commentary was provided by invited speakers, Katherine Browne, Ph.D., Charles E. Rosenberg, Ph.D., and James Green, M.L.S. The edited proceedings of the conference will be published by Johns Hopkins University Press in the near future. In the meantime, a shorter publication, "Every Man His Own Doctor," continues to be available through the Library Company. In addition to color reproductions, this booklet contains a catalogue of the items exhibited and topical essays by Charles Rosenberg and William Helfand.

Seminar Series

A series of interesting and informative seminars, sponsored by the Wood Institute, was held in the Fall and again in the Spring, usually on Tuesday afternoons from 4 to 6 P.M. Charles Greifenstein, Curator of Archives & Manuscripts, coordinated this program.

Fall 1998

Oct. 6: Susan Speaker, Ph.D. (Bucknell University) " 'The Struggle of Mankind Against Its Deadliest Foe': Themes of Counter-subversion in American Anti-Narcotic Campaigns, 1920–1940."

Oct. 13: Erin O'Connor, Ph.D. (University of Pennsylvania) "Stumped: Thinking Amputation in Victorian America."

Nov. 3: Danielle Conger, Ph.D. candidate (Pennsylvania State University) "Making Mothers: Medical Discourse and the Rise of the Bourgeois Family, 1750–1850."

Nov. 10: Heather Munro Prescott, Ph.D. (Central Connecticut State University) "The History of College and University Health."

Nov. 17: Sharon Fish, R.N., M.S.N. (University of Rochester) "Subtle Energies and Channeled Entities: Theosophical Foundations of Occult Healing in Nursing."

Dec. 1: Amy Fairchild, Ph.D. (Columbia University) "Science at the Borders: Immigrant Medical Inspection and Defense of the Nation, 1891 to 1930."

Dec. 8: Monique Bourque, Ph.D. (University of Pennsylvania) "New Medicine and Old Texts: Thomas Mouffet and *Health's Improvement* in Early Modern England."

Spring 1999

Mar. 2: Erin McLeary, Ph.D. candidate (University of Pennsylvania) "Medical Museums in the Early 20th Century."

Mar. 9: Henry Sherk, M.D. (MCP-Hahnemann School of Medicine) "Colleagues and Competitors: A History of Medicine in Camden County, 1846–1996."

Mar. 16: Steve Peitzman, M.D. (MCP-Hahnemann School of Medicine) "Learning Obstetrics in the Slums: The Home Delivery Program at Woman's Medical College."

Mar. 23: Eric von der Luft, Ph.D. (SUNY Health Science Center at Syracuse) "Mid-Nineteenth Century Attitudes Toward Women Physicians: Reflections on Elizabeth Blackwell and the 150th Anniversary of Women in Medicine."

Apr. 6: Kathleen Crowther-Heyck, Ph.D. candidate (The Johns Hopkins University) "Wonderful Secrets of Nature: Medicine and Religion in the Vernacular Medical Culture of Sixteenth-Century Germany."

Apr. 13: Thomas Harakal, Ph.D. candidate (Suffolk University) "Child Psychopharmacology at the Philadelphia Orthopedic Hospital, 1885–1889."

Resident Research Fellowships

The Wood Institute Resident Research Fellowships for 1998 (short-term grants up to $1,000) were awarded to the following scholars who spent one to four weeks at the College pursuing their topics by using the historical collections of the library and museum:

Danielle Conger, Ph.D. Candidate, Pennsylvania State University—*Nurturing the Nation: Women's Literature and the Politics of Motherhood.*

David Courtwright, Ph.D., University of North Florida—*World Historical Examination of Psychoactive Substance Use.*

Thomas Harakal, Ph.D. candidate, Suffolk University—*Conceptions of Child Psychopathology in Nineteenth-Century America.*

Timothy Hickman, Ph.D., University of California, Irvine—*The Secret Leprosy of Modern Days: Narcotic Addiction, Modernity, and Professional Medical Authority in the United States, 1870–1920.*

Constance Malpas, M.A., History of Science Society, University of Washington—*The Medical Organization of Knowledge: Pathology and Museology in 19th Century America.*

Shubha Pandya, M.B.B.S., Bombay Hospital, Bombay, India—*Albert Ashmead and the First International Leprosy Congress, Berlin 1897.*

Sean Taylor, M.A., Northern Illinois University—*Yellow Fever: Politics and Class Relations in Philadelphia, 1793–1805.*

RESEARCH REPORTS

Making Mothers: Medical Discourse and the Birth of the Middle-Class Mother, 1750–1850

Danielle E. Conger

Motherhood was one of eighteenth-century England's great paradoxes. It simultaneously pointed to all that corrupted the nation and it represented for many a panacea for all of the country's ills. Better mothers, social critics argued, represented salvation in a time of national crisis. The end of the century was for England a time of significant upheaval. Britannia lost her American colonies, declared war on France, braved significant internal conflict, and struggled to define herself as an empire in the East. That a relentless concern over the definitions and roles of mothers occurred together with such events indicated the importance that motherhood held for the English nation. Indeed, motherhood became a vital locus of political debate, challenge, and subversion throughout this period and beyond. The research I conducted at the College of Physicians of Philadelphia helped establish a foundation for my understanding of the category "mother."

"Mother" was the subject of multiple interpretations in late eighteenth-century Britain. It was a highly contested term that held different meanings and significance for royalty, landed aristocracy, professional bourgeoisie, middling-ranks, rural lower classes, and the urban poor. This very contestability allowed the concept to function politically in a number of ways that moved beyond both class categories and the domestic realm. The politics of motherhood were both subtle and often peripheral to party politics, yet the cultural influence exerted in the name of motherhood was connected to the broad social concerns of national, colonial, and domestic politics. Understanding, then, both the political possibilities and pitfalls of these early contests over the meaning of motherhood offers tremendous insight into the current rhetoric employed by various factions in our own society—including the political and religious right, feminist organizations, and the American Academy of Pedi-

atrics. My research pays particular attention to the formation of the middle-class mother through medical discourse as well as other social discourses in order to interrogate her rhetorical and literal connection to public concerns.

Historians Adrian Wilson, Barbara Duden and others have identified the late eighteenth century as the moment when obstetrics replaced traditional female midwifery, making this period in the history of medicine important to understanding the meaning of motherhood. Scholars have been tempted to narrate a story that shows a division between the traditional but vanishing female midwife and her clinical and impersonal and domineering male counterpart—a division that privileges the relationship between a woman and her midwife as more natural and empowering. However, I wanted to avoid sentimentalizing female midwives based simply on gendered assumptions. The research of eighteenth-century English medical literature that I conducted at the Library of the College of Physicians, in fact, did not support the sentimentalized stereotype. Rather, it revealed a complex debate in which male and female participants often had similar concerns. What I saw in the midwives' arguments against instruments and in the midwife's recourse to nature was the indeterminate quality of the term mother itself and the female practitioners' attempts to control it for their own purposes. Caught up in the debate over midwifery was the nature of motherhood itself and its meaning to the culture as a whole.

Midwives styled their arguments to serve their own best interests—the preservation of one of the few acceptable female professions—and many of these arguments depended upon the construction of a modest mother, vulnerable to indecent exposure and prying male eyes. Midwives mobilized arguments that appeared most persuasive and, therefore, employed terms like modesty and nature. Female practitioners, then, were no less instrumental than male practitioners in creating what was to become a middle-class maternal ideal. While conducting my research at the College of Physicians, I studied medical treatises as well as popular domestic handbooks by authors such as William Smellie, Alexander Hamilton, Robert Gooch, and Charles White. In addition, I was able to examine two of the few texts on midwifery written by women: Elizabeth Nihell's *A Treatise on the Art of Midwifery* and Martha Mear's *The Pupil of Nature*. As a result of my research, I discerned three important characteristics that distinguished female midwifery from male midwifery: the prominence of practical experience, the

importance of physical knowledge, and the emphasis on women's connections to nature.

One of the main differences between male and female practitioners of midwifery was the role of experience, which had at its core the very definition of knowledge itself. For female midwives, knowledge lay in the concrete experience of assisting women in childbirth and not in a set of anatomical tables or a compilation of lectures. The mother existed for the midwife as a living, physical being who could be known primarily through the art of "touching" or the manual discovery of information. Midwives grounded their arguments against male practitioners in the distinction between physical touch and medical intervention, which they defined in specifically non-physical terms, such as the use of artificial models, prescriptions, or instruments. Touch, then, according to midwives, served as the mode of knowing the mother and her body. Through touch and physical knowledge of the mother—knowledge of the hand rather than the mind—the midwife remedied all obstacles and obviated the necessity of instruments. Manuel knowledge in direct contrast to textual knowledge provided useful, practical, and specific information.

Interestingly, terms like modesty became the cornerstone of both male- and female-authored texts. For women authors, the lying-in chamber represented women's last defense against licentious hordes of men. To open those doors, women imagined, was to expose their bodies to the prying eyes and groping hands of men everywhere. Wrapped in the package of female modesty was the future welfare of the public and the domestic honor of families. Significantly, many man-midwives appear to have supported the view that women's modesty may have been at stake. They, too, made overt mention of the need to preserve and to guard such a precious commodity. Certainly, the issue of modesty held sway with many male and female readers. What is particularly important here, however, are the ways in which the different factions deployed a term like modesty. According to female practitioners, modesty was something to be preserved and guarded. In the hands of male authors, it became a false and dangerous luxury, one which could easily lead to the death of the mother, the child, or both.

Nature functioned alongside modesty as one of the defining arguments for engaging female midwives. Rather than requiring assistance, female midwives argued, nature ought to be left to its own devices. This opinion became increasingly prevalent among male

midwives as well, but with a significant difference. If nature indeed performed the majority of the work, then male claims to the profession would have carried little weight. If male practitioners were only needed in emergencies, which admittedly occurred only rarely, then there was no need to specialize in midwifery over standard medicine. This argument was similar to those that midwives like Elizabeth Nihell were already making. The result, however, was a nature that, while infinitely capable, ultimately required assistance and control.

This redefinition within male texts of nature as distinctly inept served to deny women's agency in a variety of ways. First and most obviously, it took the profession of midwifery out of women's hands. Second, it denied the mother access to her own body. Third, it construed the mother's body as a body in need of management. Nature was an important term for male midwives, but the way in which male practitioners approached it enabled them to gain access to the mother's body. For female midwives, nature was something to be trusted and left to its own purposes because it was God made manifest. For masculine science, nature was something to be exposed, categorized, and improved upon. Nature worked, these men argued, but only some of the time; the remainder of the cases required clear-cut and capable scientific intervention.

One of the ways in which many medical men sought to understand and to define nature was by drawing distinctions between the male and the female body, which had been taken as one and the same prior to the eighteenth century. Historians Thomas Laquer and Londa Schiebinger have pointed to the latter half of the eighteenth century as a time of profound change in the views of sexuality and sexual distinction, and the role that obstetrics played in this transformation cannot be undervalued. The need to delineate the differences between men and women produced a particularized female body, one that could be scrutinized to the minutest detail. Pictures of the pelvis, the uterus, the fetus, the placenta, the labia, and the breast offered a glimpse of the female body once hidden from view. The mother's body now consisted of parts that both carried names and corresponded to visual images. Various views were depicted at will without the unnecessary clutter of the rest of the woman's body, rendering the woman, herself, nearly superfluous.

Texts that could not reproduce the parts visually did so linguistically, chapter by chapter. Texts on midwifery began by detailing the internal versus external parts of generation, the bones of the pelvis and their proper situation, the parts contained in the cavity of

the pelvis. A woman was no longer a whole being. Obstetrics reduced her to a series of interchangeable parts. Practitioners could piece together any particular mother with which nature might confront them simply by interchanging the appropriate chapters, which provided maps to the terrain of the female body. Similarly, pregnancy and parturition were categorized and structured. Chapters on various designations of labor and fetal presentations provided practical how-to guides designed to conduct the practitioner through previously uncharted territory. What was once physical or experiential knowledge was now made manifest by keen, rational, scientific observation. An abundance of case descriptions functioned much like verbal snapshots, placing the reader in the observer's position.

The particular kind of mother that emerged from this corpus of knowledge was one that needed to be managed in several ways, ensuring her adherence to the new ways of knowing. The obstetric mother was a pathological mother; rather than a natural body with instincts and knowledge of its own, this body was plagued by uncertainty, disease, and incompetence. Once the mother's body could be classified and understood, it became incomprehensible to systems of knowledge other than obstetrics and anatomy. Particularly, it became unknowable to the mother herself. She was no longer capable of reading correctly the signs manifested by her pregnant body. Slowly, the female body became the property and province of the obstetric profession.

Obstetrics' broad focus on the maternal body enabled the regulation of a vast segment of the population, creating powerful effects in a variety of social arenas. The obstetrician was placed in the unique position of controlling the definitions of the maternal body. By naming, categorizing, and interpreting the minute particulars of the mother, the obstetrician literally made the mother's body. While mothers certainly submitted their bodies to the control of female midwives, that control was generally confined within the walls of the lying-in chamber (unless, of course, the midwife was called to lend testimony as to the cause of death or paternity). What obstetrics and its vociferous debate over women's bodies accomplished was a relocation of the female body from the private space of the lying-in chamber to the public arena of discourse as arguments over modesty, for instance, indicate. In this relocation, obstetrics created a maternal body that simply did not exist prior to scientific examination. What is important to keep in mind, however, is that female midwifery likewise participated in the conception of this public ma-

ternal body. Women like Elizabeth Nihell loudly and publicly addressed the definition and management of mothers. Indeed, the debate itself, fueled by obstetrics' new ways of knowing, inevitably produced the visible and manageable mother. The medical profession's reliance on textual rather than oral transmission of knowledge combined with the very public debate over midwifery made mothers a knowable and public category that could then be appropriated and defined in a variety of ways.

Ultimately, the period from 1750 to 1850 represents a momentous shift in the structure of national and domestic politics in England, and mothers were at the center of both. Precisely because the debate over obstetrics brought the mother into the realm of public discourse, she was made available for political uses. Thus, the debate surrounding obstetrics delivered the female body from relative secrecy and seclusion into the public realm. It created a body that was visible and clearly distinguishable from the male body in its valuable, though vulnerable, ability to gestate and bear future citizens. The mother's body was decidedly accessible to the medical profession as well as other interested forces: the majority of the female population underwent pregnancy and birth multiple times, often up to twenty times in large families, between the average ages of fifteen and forty. The Registrar General's Reports from the years 1851–1860 show a female population of 4.6 million between these ages who gave birth an average of 1,775 times per day. These estimated 647,875 births a year resulted in some form of intervention, making mothers a remarkably visible and accessible resource. In part due to developments in obstetrics, the years 1750 to 1850 represent a moment at which motherhood became available for public definition and political control. This newly public role played by "the mother" created a conservative middle-class mother who by the Victorian period was consigned, yet again, to the private sphere—but to a private sphere that had since been transformed into a visible and controllable realm.

Global Psychoactive Resources

David Courtwright

David Courtwright conducted research at the College of Physicians of Philadelphia's Library under the auspices of a Wood Fellowship

during the summer of 1998. His topic was the confluence of the world's psychoactive resources. He has completed a book manuscript about how and with what consequences alcoholic and caffeinated beverages, tobacco, opium, cannabis, cocaine, and other drugs spread around the world in the five centuries after the European voyages of discovery. An excerpt from this manuscript appears in this issue of *Transactions and Studies of the College of Physicians of Philadelphia.*

The Origins of Orthopsychiatry? Child Psychopharmacology at the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, 1881–1889

Tom Harakel

My research interest is the historical conceptions of child psychopathology. I am specifically interested in the development of the disciplines of child psychiatry and child clinical psychology in America. During my research at the College, I examined materials which illuminate nineteenth-century ideas about the symptomatology, diagnosis, and treatment of mental illness in children.

The discipline of child psychiatry in America has its origins in the early twentieth-century child guidance clinics. The first such clinics in this country were the Chicago Juvenile Psychopathic Institute (founded in 1909), the outpatient department of the Boston Psychopathic Hospital (1912) and the Henry Phipps Clinic in Baltimore (1913), both of which saw children and adults, and the Judge Baker Foundation in Boston (1917). Children and adolescents were referred primarily by schools or juvenile courts. The Boston facilities conducted extensive interviews of patients and their families and administered psychological tests such as the Binet and Yerkes to children. Although Lightner Witmer had opened a clinic in 1896, the child guidance clinic marks the appearance of the team "case management" method. Each patient was assigned a psychologist, a psychiatrist, and a social worker.

I am primarily interested in the antecedent conditions which led to the child guidance movement. While I am familiar with the role of the Boston medical community in the history of childhood mental illness and behavior, I came to the College to determine how

physicians in the Philadelphia area conceptualized child psychopathology during the nineteenth century. The College has a trove of information, which enabled me to use a three-pronged approach. First, in order to determine how child psychopathology was taught (if at all), I examined nineteenth-century medical textbooks. (I was surprised and pleased to find in the College's card catalogue a separate entry for "child psychopathology," one which includes many nineteenth-century books published in Germany). A useful work on the prevailing eighteenth-century ideas of mental illness was an "Inaugural Dissertation on Insanity," presented in 1794 by a student at the University of Pennsylvania. Secondly, I examined medical journals for relevant articles. Particularly useful serials included the *American Journal of Obstetrics and Diseases of Women and Children*, the *Archives of Pediatrics*, the *Transactions of the American Pediatric Society*, the *Journal of Nervous and Mental Diseases*, the *Journal of the American Medical Association*, and the *Philadelphia Medical Journal*. I determined that medical texts rarely addressed child mental illness and that most journal articles were case studies of developmental delay, referred to as "idiocy" or "imbecility." What would be considered as a fever delirium today was diagnosed as "mania in a case of typhoid fever." Pharmacological therapies were very rarely suggested by authors writing about mental illness in children.

However, the most exciting research find was the patient ledgers from the Philadelphia Orthopedic Hospital for the years 1881 to 1889. Founded in 1868, the original mission of the hospital was the correction of bone and joint abnormalities. In 1870, the hospital opened a companion clinic, the Infirmary for Nervous Diseases. Here, children were seen for medical conditions such as chorea and epilepsy. Mood disorders were categorized as melancholia or "general nervousness." There was the occasional nonspecific diagnosis (e.g., "insanity"), as well as the once-popular (and still confusing) "hysteria."

These records indicate perhaps the earliest appearance of the child as a measurable unit of behavioral analysis in a medical setting. This may not have happened by design, however. The Orthopedic Hospital evaluated the physical needs of children with deformities and injuries. Thus, the medical condition required a treatment approach which was age-specific and appropriate for the individual case; not all cases were suitable for surgery. This approach to assessing and treating a child's (physical) needs became the paradigm for the Orthopedic's companion clinic. Obviously,

the emphasis was still medical: "Infirmary of Nervous Diseases" implied that the mission was to treat diseases of the nervous system. However, in those children whose psychological or behavioral symptoms indicated pathology (e.g., hallucinations, nervousness, etc.) the clinical conceptualization of child psychopathology became a distinct, though still not widely acknowledged, entity. The records also indicate pharmacological approaches to treatment, including large doses of potassium bromide, which originally was used to treat epilepsy. Another popular oral medication was "Fowler's Solution," a mixture prepared with arsenic, potassium, lavender, and distilled water. My future project is to examine these records to determine patient age, diagnosis, prescriptions and dosages. I would also like to examine the intended target effects and probable side effects of the medications.

This research is largely uncharted territory. The College has other primary materials for anyone interested in the history of child study, including a manuscript notebook of an 1828 Yale Medical School lecture on children's diseases. Recently, the College catalogued an outstanding collection of materials from the Elm Hill Private School and Home for the Education of Feebleminded Youth in Barre, Massachusetts, which opened in 1848. I thank the Wood Institute for giving me the opportunity to facilitate my research during my graduate school years. Not only will I continue my research at the College, I look forward to being a lifelong patron and supporter.

Narcotic Addiction: Modernity and Professional Medical Authority in the United States, 1870–1920

Timothy Hickman

In June of 1998, Timothy Hickman used the rich collection of material on opiates and other drugs housed in the Historical Collection of the College Library. Drawing on material from the *Quarterly Journal of Inebriety* and the original pamphlets of George Beard among other sources, Hickman was able to show how medical professionals and popular writers constructed the concepts of addict and addiction from widely prevalent categories that were already being used to explain the significant losses of autonomy associated with modernity and industrialization. According to Hickman and

others, this specific understanding of addiction determined what types of legislative, administrative, and therapeutic approaches would be seen as effective for resolving turn-of-the-century "drug problems" in the United States. Dr. Hickman is grateful to the College for making it possible for him to complete his manuscript, *The Secret Leprosy of Modern Days: Narcotic Addiction, Modernity, and Professional Medical Authority in the United States, 1870–1920,* which has been accepted for publication.

Albert S. Ashmead and the First International Leprosy Conference, Berlin, 1897

Shubhada S. Pandya

Armauer Hansen's discovery of the leprosy bacillus in 1873—significant as it seems from today's perspective—did not create large ripples at the time. Controversies about the etiology of leprosy continued to divide scientists and confuse administrators until the First International Leprosy Conference twenty-five years later. This conference, held in Berlin in 1897, declared that leprosy was an infectious or contagious bacteriological disease that could be stamped out by the systematic segregation of the afflicted.

The Conference was a triumph for the contagionist viewpoint. But, as my study of Ashmead revealed, it also marked the defeat of a particular type of contagionsim, namely ultra-contagionism. Ashmead, a Philadelphia physician who later practiced in Tokyo, Kansas, and New York, had seen leprosy during the two years he spent in Japan. My research at the College of Physicians of Philadelphia's Historical Library was devoted to studying Ashmead's role in planning the conference and his relationships with his European supporters and opponents. What was the reason for Ashmead's "failure" and did the retreat of his philosophy of ultra-contagionism have any effect on governmental measures against leprosy in nineteenth century British India?

Ashmead's personal papers housed at the College were a treasure-house (despite his exasperatingly illegible handwriting!). From his papers I learned that the Conference was actually mooted in August 1896 by Jules Goldschmidt of Paris whose twenty-six years of experience with leprosy in Madeira convinced him that a pandemic was inevitable unless urgent segregation measures were undertaken

in all countries where leprosy was endemic. This alarmist view struck such a sympathetic chord in Ashmead that he seized the initiative and began canvassing support from crowned heads of state, governmental agencies, and charitable bodies for an International Congress to discuss ways to avert the supposedly impending catastrophe. Ashmead's hand was initially strengthened by the promise of support from Armauer Hansen, the most well-recognized authority on leprosy containment.

It is clear that Ashmead's own agenda was not merely for general, governmental anti-leprosy measures, but included an attempt to keep the United States free of leprosy. Although there were not more than 300–400 persons with leprosy in the United States, Ashmead's alarmist views caused him at various times to indict Hawaiian and Canadian authorities for laxity in imposing anti-leprosy laws. For example, he accused the former of permitting "leper" fisherman to sell their wares to the general public. He feared that Canadian carelessness threatened the northern frontier of the United States by allowing the entry of leprous Icelanders. A further reading of the Hansen-Ashmead correspondence leads me to conclude that it was this "extra-territorial" ambition on Ashmead's part that caused Hansen to withdraw from Ashmead's plan for a conference. The Norwegian leprologist said several times that his country had nothing to learn from other countries and authorities about leprosy control. The Norwegian type of segregation policy (compulsory isolation of the worst cases and of pauper lepers with home segregation for well-to-do sufferers) was universally acknowledged to be the reason for the reduction in the number of Norwegian patients from 2,833 in 1856 to 700 in 1896.

Hansen's defection was a major blow to Ashmead. The author of his defeat was the Danish dermatologist Edvard Ehlers (1867–1937). Ehlers enters the Asmead correspondence as a rival organizer of a conference supported by major European scientists including Robert Koch, Armauer Hansen, and Rudolph Virchow.

The distinction between his "Leprosy Congress" and Ehlers' "Leprosy Conference" was crucial from Ashmead's point of view. The former, as he envisioned it, would serve as a forum for governmental delegates to draft internationally binding anti-leprosy legislation, while the latter, Ashmead feared, would just be leprologists "talking shop." In any case, the European leprologists' Conference won the sponsorship of the German government, resulting in the demise of Ashmead's ambition for an international body with supra-national jurisdiction for leprosy prevention.

The final statement of the 1897 Conference (which included delegates from twenty-two governments as well as 120 leprologists) endorsed the Norwegian pattern of isolation and was pointedly silent on the question of international legislation. Surprisingly, Ashmead did not attend the conference—although he submitted two innocuous papers. Goldschmidt did attend, but did not press his priority in initiating the conference. The defeat of Ashmead's ambition, according to my reading of the primary published and unpublished material, was due to two reasons: (1) the threat Europeans, particularly Norwegians, perceived with respect to their sovereignty in matters of national anti-leprosy policy, and (2) the possible political repercussions of Ashmead's xenophobia and ultra-contagionism on Scandinavian immigration to the United States.

Ashmead's combativeness, dogmatism, and arrogance are very apparent in his papers. His pique at being outmaneuvered in the organization and agenda of the Conference expressed itself as aggressive animus against Ehlers and a haughty disdain for Hansen. Ashmead even entered into a battle of words with the Louisiana leprologist, Isidore Dyer, over the conference's rejection of Ashmead's resolution for international leprosy legislation.

What of the effect of the conference on leprosy in India? I was surprised to learn that India was not represented at the conference. Nevertheless, the conference's final statement, encouraging the freedom to pursue segregation with respect to local circumstances and without external interference was probably well received by the British Government of India, which took a minimalist view of contagion's role in the spread of leprosy.

My Fellowship at the Wood Institute for the History of Medicine enabled me to access not only the correspondence of Ashmead and his contemporaries but also to review relevant material in regional American medical journals from the late nineteenth century. I was delighted to discover many Indian journals of the period and to augment information I had collected from other sources. Many of the Indian journals are not available in Bombay. I heartily thank Charles Greifenstein for help in locating sources, Chris Stanwood for obtaining material, and Marjorie Smink for administrative help and for easing my way personally. Lastly, but of course not least, I am grateful to the College for providing me with the opportunity to come to Philadelphia.

Yellow Fever: Politics and Class Relations in Philadelphia, 1793–1805

Sean Taylor

Historians of early national Philadelphia have examined many aspects of health in that city including the recurring yellow fever epidemics and their effects on the lives of Philadelphians. My project, "Yellow Fever: Politics and Class Relations in Philadelphia, 1793–1805," re-explores the medical, social, and political implications of the yellow fever epidemics that occurred in Philadelphia from 1793 to 1805.

Despite intense contemporary interest in the epidemics and a number of studies that link the 1793 epidemic to party politics and elite ideology, little is known about the impact of recurrent yellow fever attacks on the city's poor and no studies directly address the effect of nearly annual yellow fever epidemics on the social structure of Philadelphia. My work plumbs, for the first time, the effect of yellow fever epidemics on class relations in Philadelphia, and especially the relations between Philadelphia's wealthier and poorer citizens during these critical years of the early republic. My investigation challenges the current understanding of class relations and politics in this period by looking at these topics through the lens of yellow fever.

The extensive manuscript collection of the College of Physicians of Philadelphia enabled me to understand the relationship between elite physicians and the Commonwealth government, the two groups responsible for health policy at this time. In particular, the "Committee Minutes" offered invaluable insight into the dependence of elected officials on the College of Physicians to create an effective health policy that combined contemporary scientific understanding of yellow fever and its prevention with the needs of the community at large. In reading this massive collection of letters and minutes some things became obvious. First, during the two years after the great epidemic of 1793, the newly established Board of Health, along with the College of Physicians of Philadelphia, focused their efforts on disease prevention from without. That is to say, the health office worked to keep the disease out of the city by reinforcing and reinvigorating existing laws, and, in some cases, by adding to the power of the government to achieve this end. Second, it is obvious that these efforts were insufficient. The Board of

Health, in concert with the College of Physicians, soon found themselves called upon by the Governor and the General Assembly to regulate the spread of infectious disease inside the city in ways that had not been used before. By creating a health policy that now called for the removal of infected and non-infected alike, health officials greatly disrupted the lives of Philadelphians. As health office officials and ruling elites in government gained experience with recurrent epidemic disease, they learned to enact health regulations they hoped would prevent disease, but that they would not have to follow themselves. By fleeing to the countryside at the beginning of epidemics, the elite left the poor at the mercy of the yellow fever and the newly created health laws.

Currently, my work focuses on the development of the Board of Health in Philadelphia. The Board was formed in April of 1794 in direct response to the devastating fever of the previous autumn. The Board of Health, acting on the advice of the College of Physicians of Philadelphia, developed a series of regulations during this period that limited the freedom of the working poor. Specifically, I argue that this series of epidemics allowed the development of a non-elected commission that increasingly controlled the everyday lives of the city's poor.

The poor always suffered the most during an outbreak of yellow fever. Living near the waterfront in Philadelphia exposed them to infected ships first. Their generally poorer health and deficient nutritional state left them even less able to withstand the disease. During the summer of 1795, however, yellow fever was not the cause of their suffering. When the fever appeared in New York City, Governor Mifflin of Pennsylvania solicited the opinions of the College of Physicians of Philadelphia and the Board of Health as to what actions should be taken to prevent it from spreading to the Quaker City. When it became apparent to the College and the Philadelphia Board of Health that their counterparts in New York City were less than forthcoming about the severity of the disease, they recommended a "stoppage of intercourse" with New York. Under a new part of the health act passed that very year, the governor (or, in his absence, a majority of the Board of Health) could call for a cessation of trade with any city in the United States. Consequently, recent inhabitants of New York City were not allowed closer than five miles of Philadelphia. All trade either by land or by sea came to a halt. Anyone caught in the city from New York would immediately be transported to the hospital on State Island. Violating the order had severe ramifications, including a fine not exceed-

ing three hundred dollars, a sum designed to dissuade all intercourse with an infected city.

When Governor Mifflin halted trade with New York City in 1795, unskilled workers, who worked at loading and unloading ships, porters, and merchant seamen found it more difficult to locate work at the wharves. Trade with other ports in the region, such as Wilmington and Baltimore, still carried on throughout the fall, but trade to and from New York was not insubstantial. The port closure slowed work during peak harvesting and shipping times, undoubtedly decreasing the amount of day work available to laborers. In turn, loss of wages during summer months portended catastrophe in the cold winter months ahead. While this act was clearly executed by an elected official, he acted only after soliciting advice from the College of Physicians and the Board of Health, giving both non-elected bodies significant power in the lives of laboring Philadelphians.

The cessation of trade with New York was not an isolated incident. Subsequent actions on the part of the Board of Health and the College of Physicians had a more direct impact on the lives of the city's poor. While eighteenth-century Philadelphians did not understand that yellow fever was transmitted by mosquitoes, they did recognize that yellow fever first occurred in the wharves and docks of the poor parts of town. In 1795, the College of Physicians and the Board of Health argued that during an epidemic the healthy should be removed from the source of the disease during an epidemic. This inclination was strengthened during the 1797 and 1798 epidemics, by allowing health officers to enlist the help of any and all deemed necessary to complete the removal of healthy individuals. Consequently, while the healthy elite willingly fled the city at the first sign of sickness, the healthy poor were forced to move away, leaving behind their only source of income for as much as a month at the height of the shipping season.

My dissertation explores the intersection of the medical, social, political, and economic forces surrounding the yellow fever epidemics in early national Philadelphia. Disease has often been a major force in social and political change. Whether we study yellow fever epidemics in early national Philadelphia or the role of polio in post-World War II America, it is evident that epidemic disease fundamentally affects the way poor and rich alike view their world. Epidemic yellow fever in Philadelphia was especially connected to class relations in the early republic because of the way the state responded (or did not respond) to the crisis as well as the way poor

people explained the disease to themselves. Scholars to date have studied many aspects of the 1793 yellow fever outbreak extensively. My project seeks to further our understanding of the role that recurring yellow fever epidemics played during an already volatile period in our nation's history.

The extensive manuscript collection of the College of Physicians as well as its the printed collection have aided me tremendously in my research. The library staff was especially helpful in aiding an out-of-town scholar get through an incredible amount of material in a very short time. More than once, when I thought I was near the end, a member of the library staff would show me a new ledger book with even more material that I was unaware of. The depth of the College's collection regarding yellow fever is truly amazing and I am thankful for my opportunity to make use of this important institution.

Medicine's Problem Children: Tobacco, Alcohol, and Amphetamines

David T. Courtwright

During the past 500 years people everywhere have gained access to new means of rapidly altering their ordinary waking consciousness. This development, which I call the psychoactive revolution, was closely linked to the expanding trade and empire-building of the early modern period. Coffee, for example, spread from Ethiopia, where it was indigenous, to Arabia, then throughout the Islamic lands and Christian Europe. Europeans brought the taste and the beans to the Americas, home of seventy percent of the world's coffee crop by the late nineteenth century.

Something similar has happened with all major psychoactive substances. Once geographically confined, they (or their alkaloids) spread around the world as their medicinal and consciousness-transforming properties became known. Opium poppies, indigenous to Eurasia, now flourish in Mexico and Colombia. Tobacco, a New World plant, has become the most widely cultivated non-food crop on the planet. Cocaine is a black-market drug in Europe and West Africa as well as the Americas. Synthetic drugs like LSD or Ecstasy, though of much more recent historical vintage, are available throughout the world.

Psychoactive drugs, in brief, have become global commodities. Billions of people now have the means of introducing powerful chemicals into their brains, making lasting impressions on their most primitive pleasure and motivational systems and lasting headaches for public health and law enforcement officials. This article explores the connection between medicine and the psychoactive revolution. Drugs did not immediately become objects of popular consumption, global or otherwise. They typically began their careers as exotic medicines, about which physicians often made heated claims and counterclaims. These intramural disputes seldom attracted official notice. Only when drugs began to be widely used in a non-medical context did they generate public controversy and state intervention. In fact, the distinction between med-

ical and non-medical use ultimately became the moral and legal foundation of the entire international drug control regime.

This story of the escape from medicine's realm into the larger world of popular pleasure, mischief, and regulation runs through the histories of all novel psychoactive drugs, plant and synthetic. What most people think of as "drugs" are medicine's problem children, runaways who found homes elsewhere. I have chosen to illustrate this theme by looking briefly at tobacco and alcohol and, at greater length, the amphetamines, a class of drugs that has not yet received the historical attention it deserves. In all three cases I have confined myself to the drugs reception and popularization in western or, in the case of Japan, westernized societies.[1]

"An Hearbe of Great Estimation"

Before the rise of scientific medicine and its ethic of therapeutic specificity of particular medicines for particular diseases, often supported by controlled studies, doctors regarded drugs as tools to achieve broad physiological effects. Through such actions as quickening the pulse or regulating the bowels, they supposedly helped the body regain its natural balance. Seldom did physicians restrict a particular drug to a single illness. Quinine, for example, was an all-purpose tonic, not just a specific for malaria. New drugs with pronounced effects were almost automatic candidates for medical curiosity and enthusiasm.[2]

This was especially true if doctors could administer them in a variety of ways. The Seville physician Nicolas Monardes, a student of New World drugs, published a seminal and widely translated work on tobacco in 1571. He wrote that, applied topically, it could heal all manner of wounds, sores, and aches. Taken internally, it acted as a vermifuge. Chewed, it allayed hunger thirst; smoked, it overcame fatigue. Monardes noted that Indians also smoked as a

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[1]The western focus is for reasons of space. Other societies and other drugs are discussed in my forthcoming (and as yet untitled) book on drugs in world history. Research for this project was supported by a Wood Fellowship, which enabled me to work with the College of Physicians of Philadelphia's collections and always helpful staff. I also wish to thank Charles Rosenberg and Susan Speaker for reading a preliminary draft, and Deborah Franklin for her editorial assistance.

[2]James Harvey Young, *Pure Food: Securing the Federal Food and Drugs Act of 1906* (Princeton: Princeton University Press, 1989), p. 28.

"pastyme," reveling in tobacco drunkenness and diabolical visions. He was emphatic in his disapproval of these practices.[3] From the start moral lines were being drawn.

Tobacco quickly acquired a reputation as a "great Antidote against all venome and pestilential diseases," able to cleanse the air and disperse the poisonous "vapors" responsible for plague.[4] "This day," Samuel Pepys wrote in his diary for June 7, 1665, "much against my Will, I did in Drury-lane see two or three houses marked with a red cross upon the doors, and Lord have mercy upon us writ there which was a sad sight to me, being the first of that kind that to my remembrance I ever saw. It put me into an ill conception of myself and my smell, so that I was forced to buy some roll-tobacco to smell to [sic] and chaw which took away the apprehension." No London tobacconist, legend has it, succumbed to the Great Plague.[5]

Medical interest in and enthusiasm for Monardes "hearbe of great estimation" peaked around 1600.[6] While doctors were debating the means of administration and refining the indications for tobacco, sailors, soldiers, and men-about-town were smoking for their own pleasure, and urging their tavern-mates to do the same. As the supply expanded in the seventeenth century, and the practice became more general, many physicians grew alarmed by what they saw as the abuse of tobacco. One of the most interesting polemics came from the pen of the Danish physician and academician Simon Paulli, who published an important commentary on the abuse of tobacco and other imported drugs in 1665. Tobacco had valuable heating and drying properties, Paulli conceded, and many uses as an infusion, syrup, or ointment. But when sniffed or especially smoked it was "intolerable, and highly noxious." Tobacco smoke poisoned the brain and drained the purse. Foolish men smoked inordinate

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[3]Monardes, *Joyfull Newes Out of the Newe Founde Worlde*, trans. John Frampton, vol. 1 (New York: AMS Press, 1967 reprint ed.), pp. 75–98, "pastyme" at p. 86, "hearbe" at p. 91.

[4]Giles Everard, *Panacea; or the Universal Medicine, Being a Discovery of the Wonderful Vertues [sic] of Tobacco* ... (London: Simon Miller, 1659; first pub. 1587), "Antidote" in John Rowland's unpaginated dedication; Katharine T. Kell, "Tobacco in Folk Cures in Western Society," *J. of American Folklore*, 1965, 78: pp. 99–112.

[5]*The Diary of Samuel Pepys*, ed. Robert Latham and William Matthews, vol. 6 (Berkeley: University of California Press, 1972), p. 120; Marc and Muriel Vigié, *L=Herbe à Nicot: Amateurs de Tabac, Fermiers Généraux et Contrebandiers sous l=Ancien Régime* (Paris: Fayard, 1989), ch. 2; George Arents, *Early Literature of Tobacco* ([New York]: privately printed, 1938), pp. 3–5.

[6]Sarah Augusta Dickson, *Panacea or Precious Bane: Tobacco in Sixteenth Century Literature* (New York: New York Public Library, 1954), p. 103.

quantities, "whilst, perhaps, their Families are starving at Home . . . [S]uch is the Madness of some *Europeans*, that they will, for a Trifle, dispose of their Goods, in order to gratify themselves with *Tobacco*."

Paulli, a cosmopolitan with a wide knowledge of botany and many continental correspondents, understood that tobacco was not the only new drug entering European medicine and commerce. Crediting as sincere reports that drinking chocolate, coffee, and above all tea produced healthful benefits, he pointed out that only by those who lived in the plants, native regions were likely to enjoy their benefits. "The natural Produce of any Country is best suited to the Constitution of its Inhabitants," he argued, invoking an ancient medical maxim. Tea was best for the Chinese, coffee for Persians, chocolate for American Indians, and ale and wine for Europeans. Violating the natural order by mixing drugs and peoples had debilitating consequences, including sterility. Their importation was wasteful and dangerous, as Europeans already had plants that yielded the desired effects. Spending immense sums for stale and adulterated foreign equivalents was "raging epidemical Madness." Besides, why should they ape base and cunning Asiatics, not to say the very Indian cannibals who had infected Europeans with syphilis, and were doing so again with smoking? It was a shame, Paulli exhorted, "that we *Europeans* should thus brutally follow the Custom of the *Barbarians*, without listening to *Reason*, in which we so far excel them."[7]

Within the pages of this little book lie every one of the principal reasons why governments would one day assert control over or prohibit the use of certain drugs. They harm those who abuse them as well as those close to them. They drained the resources of individuals, families, and states. They were sinful, a vice of demonic others. Even the notion that drugs did not travel well, and could disrupt societies unfamiliar with them, survived as a commonplace of social science.

What also persisted was Paulli's distinction between tobacco as an occasional medicine, entirely beneficent when the right people used it in the right circumstances, and tobacco as a habitual form of self-indulgence. The titles and the names of organizations document the persistence of this distinction well into the nineteenth century:

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[7]Paulli, *A Treatise on Tobacco, Tea, Coffee and Chocolate*, trans. [Robert] James (London: T. Osborne, 1746; first pub. 1665), quotations at pp. 15, 18, 23, 132, 169, emphases in the original.

"The effects of tobacco *when used as a luxury*," "Is tobacco a good thing, *otherwise than as a medicine?*" "L'Association Française Contre *l'Abus* du Tabac."[8] Deadly poison that it could be, critics conceded that tobacco had its uses, such as treating spasmodic asthma.[9] Salvador Ruiz Blasco, a Spanish physician, once revived a stillborn child by blowing cigar smoke upon it. The motionless infant stirred, made a face, and began to cry. He was christened Pablo Picasso.[10] [Figure 1]

In the late twentieth century, long after tobacco had acquired a panlethric reputation, nicotine still had important therapeutic applications. Noting that the smoking rate in schizophrenics was as high as eighty percent, researchers learned that it alleviated the agitating symptoms of the disease. Smoking also helped patients deal with the side effects of powerful antipsychotic drugs. One investigator, Edward Levin, has raised the possibility of switching schizophrenic smokers to nicotine patches.[11] Researchers are currently investigating nicotine and related compounds as treatments for Alzheimer's and Parkinson's diseases, depression, attention deficit hyperactivity disorder, Tourette's syndrome, and ulcerative colitis.[12]

"A Most Excellent Thing"

Wine was among the most ancient of medicines, employed therapeutically in all societies possessing viticulture. Greek and Roman physicians recommended it as a wound dressing, a fever fighter, di-

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[8]S. J. W. Tabor, "An Unprejudiced Inquiry Concerning the Effects of Tobacco on the Human System When Used as a Luxury," *Boston Medical and Surgical Journal*, 32 (1845), pp. 509–517; Charles Knowlton, "Is Tobacco a Good Thing, Otherwise than as a Medicine?" *Boston Investigator*, 9 February, 1838; Didier Nourrison, "Tabagisme et Antitabagisme en France au XIX[e] Siècle," *Histoire, Economie, et Société*, 7 (1988), p. 545.[9][John Bell et al.,] Report in Response to a Petition from Young Men's Association of Philadelphia for Discontinuing the Use of Tobacco (MS, 1833), p. 4, College of Physicians of Philadelphia Library, hereafter CPPL.

[10]Antonina Vallentin, *Picasso* (Garden City, N.Y.: Doubleday, 1963), p. 1.

[11]Levin, "Nicotine and Schizophrenia: Cognitive Aspects and Possible Novel Treatments," http://www.mhsource.com/advocacy/narsad/nicotine.html, accessed 10 July 1998.

[12]John Schwartz, "A Cigarette Chemical Packed with Helpful Effects?" *Washington Post*, 9 November 1998.

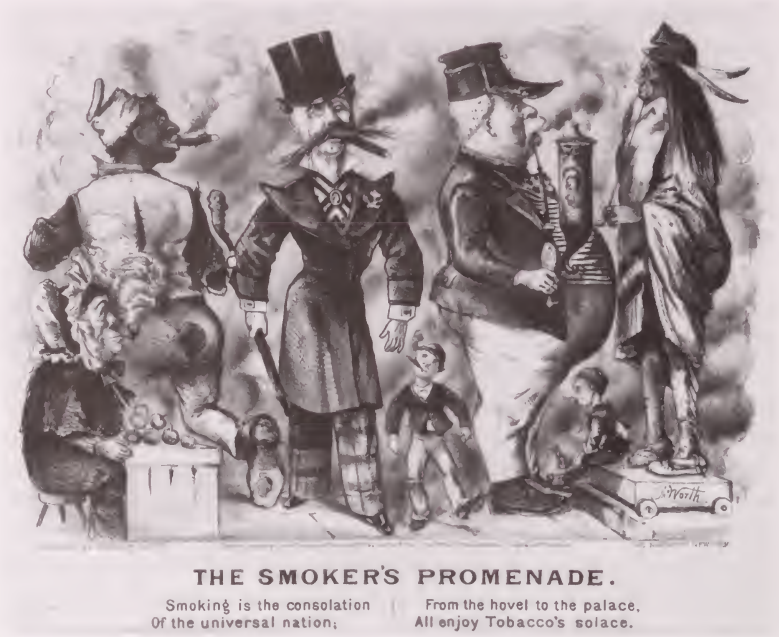
THE SMOKER'S PROMENADE.
Smoking is the consolation
Of the universal nation;
From the hovel to the palace,
All enjoy Tobacco's solace.

Figure 1. Many nineteenth-century physicians criticized the democratization and everyday use of tobacco, though not its occasional medical application. 1876 Currier and Ives print, Library of Congress.

uretic, and a restorative beverage.[13] The Talmud says that "wine taken in moderation induces appetite and is beneficial to health . . . Wine is the greatest of medicines."[14] Wine and beer were commonly used as vehicles for other plant drugs, a practice that we can date to the Ebers papyrus of ca. 1550 B.C. Medicated drinks were well-nigh universal in medieval and early modern Europe. "To Procure easie Labour," runs a typical English recipe, "Take 3 spoonfulls of Oyle of Sweet Almonds in halfe a Pinte of white Wine every morning for 6 weeks together before the time of Delivery it is a most excellent

[13]Tim Unwin, *Wine and the Vine: An Historical Geography of Viticulture and the Wine Trade* (London: Routledge, 1991), p. 179.
[14]*Talmud: Tractate Berachoth*, 35b and 58b, translated in *The Origins and Ancient History of Wine*, ed. Patrick McGovern et al. (Amsterdam: Gordon and Breach, 1995), p. 5.

thing."[15] Cotton Mather, the Massachusetts clergyman-physician, recommended pulverized Green Turtle's penis in beer, ale, or white wine as a speedy cure for kidney stones.[16]

Before the seventeenth century distilled alcohol was expensive, typically sold in apothecaries' shops, and reverently regarded as a life-giving "miracle," capable of dispelling everything from plague to melancholy.[17] *Aqua vitae*, as brandy was called, means "water of life." (Likewise whiskey, which derives from the Gaelic *uisge beatha*.)[18] Those who took a half spoonful of brandy every morning, declared one physician, will never be ill.[19] Lest we dismiss this out of hand, modern epidemiological studies have shown that the antiseptic properties of spirits do confer protection against food-borne diseases like hepatitis. [20] **[Figure 2]**

As with tobacco, physicians debated alcohol's therapeutic uses, a debate that turned heated in the late eighteenth and early nineteenth centuries. Few doubted, however, that it could be a lifesaving stimulant. "Alcohol, in full doses, seems to act as an absolute specific in snake poison, by overcoming the paralysed state of the heart and forcing it quickly to resume its natural action . . . ," wrote the Australian physician Julius Berncastle. His prescription: a wine glass full of brandy every quarter hour until cured.[21] Thomas Hicks, who staggered across the finish line to win the 1904 Olympic marathon, took strychnine and brandy to combat his exhaustion.

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[15]Medical and Household Recipes (MS, n. d.), CPPL.

[16]Mather as quoted in *The Angel of Bethesda*, ed. Gordon W. Jones (Barre, Mass.: American Antiquarian Society, 1972 reprint ed.), p. 87.

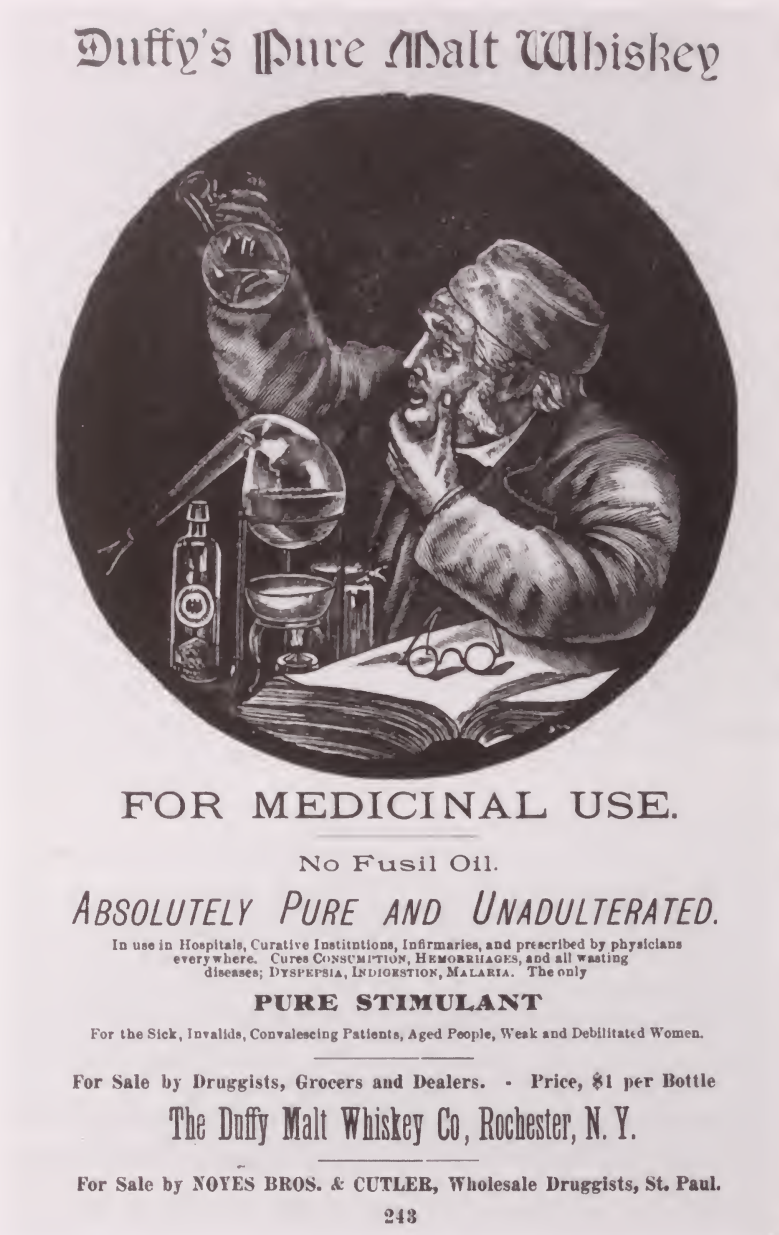
[17]John J. McCusker, "Distilling and Its Implications for the Atlantic World of the Seventeenth and Eighteenth Centuries," in *Production, Marketing and Consumption of Alcoholic Beverages since the Late Middle Ages*, ed. Erik Aerts et al. (Leuven: Leuven University Press, 1990), pp. 7, 9; Paul Diepgen, "Der Alkohol in der Medizingeschichte" [Alcohol in Medical History], offprint from *Sonderdruck aus Jahrbuch 1937 der Gesellschaft für die Geschicte und Bibliographie des Brauwesens E.V.* in C39(g): Alcohol, Kremers Reference Files (hereafter KRF), Pharmacy Library, University of Wisconsin, Madison, "miracle" at p. 18.

[18]Mark Keller et al., *A Dictionary of Words about Alcohol*, 2nd ed. (New Brunswick: Rutgers Center of Alcohol Studies, 1982), pp. 44, 263.

[19]R. J. Forbes, *Short History of the Art of Distillation* (Leiden: E. J. Brill, 1948), pp. 95, 108, 111.

[20]Jean-Claude A. Desenclos et al., "The Protective Effect of Alcohol on the Occurrence of Epidemic Oyster-Borne Hepatitis A," *Epidemiology*, 3 (1992), pp. 371–374. See also Sarah E. Williams, "The Use of Beverage Alcohol in Medicine, 1790–1860," *Journal of Studies on Alcohol*, 41 (1980), pp. 543–566.

[21]*Australian Snake Bites: Their Treatment and Cure* ... (Melbourne: Mason, Firth, 1868), p. 8.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PURE STIMULANT
For the Sick, Invalids, Convalescing Patients, Aged People, Weak and Debilitated Women.
For Sale by Druggists, Grocers and Dealers. - Price, $1 per Bottle
The Duffy Malt Whiskey Co, Rochester, N. Y.
For Sale by NOYES BROS. & CUTLER, Wholesale Druggists, St. Paul.
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Figure 2. This 1894 whiskey advertisement cleverly evokes alcohol's venerable medical heritage. Even strict temperance families kept a bottle handy for medical emergencies such as fainting spells. KRF P39(k)I: Proprietary.

The dubiousness of this (legal) tactic may be inferred from Hicks' time, three hours and twenty-eight minutes.[22]

Spirits drinking as a form of dissipation was an entirely different matter, and was recognized as such long before Hicks stumbled across the finish line. Historian Ann Tlusty, who has studied Augsburg's sixteenth- and seventeenth-century statutes on spirits, has shown how stubbornly authorities tried to enforce the distinction. "Brandy is not a drink to be taken immoderately," a 1614 regulation declared, "but only for strength or medicinal purposes." Brandysellers' customers had to take their medicine standing up and on the premises, rather like methadone patients three-and-a-half centuries later. They could not drink brandy in taverns or other recreational settings. The strictures on gin, suspect as a waste of grain as well as a potent source of intoxication, were tighter still. Only four licensed apothecaries could sell grain alcohol for medicinal purposes. Popular demand, however, gradually undermined the regime. Soldiers demanded their brandy; widows and poor craftsmen distilled gin on the sly. Faced with persistent resistance and evasion, the city council acquiesced to taxed, nonmedical consumption, first of brandy, then of gin. Both were fully legal by 1683.[23]

One of gin's attractions was its cheapness. Its low price relative to beer and ale triggered a gin-drinking "epidemic" in early eighteenth-century England, immortalized in Hogarth's *Gin Lane* and *Beer Street*. Writers such as Tobias Smollett and Thomas Fielding—the former a physician, the latter a magistrate—denounced gin for creating a new and unprecedentedly dangerous kind of drunkenness. Gin, complained Smollett, "was sold so cheap that the lowest class of the people could afford to indulge themselves in one continued state of intoxication, to the destruction of all morals, industry, and order. Such a shameful degree of profligacy prevailed that the retailers of this poisonous compound set up painted boards in public, inviting people to be drunk for the small expense of one penny; assuring them they might be dead drunk for two-pence, and have straw for nothing."[24]

That this famous story was apocryphal and discredited soon after it appeared is beside the political point. Gin binges inspired

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[22]Charlie Lovett, *Olympic Marathon: A Centennial History of the Games' Most Storied Race* (Westport, Conn.: Praeger, 1997), p. 13.

[23]Tlusty, "Water of Life, Water of Death: The Controversy over Brandy and Gin in Early Modern Augsburg," *Central European History*, 31 (1998), pp. 1–30.

[24]Smollett, *The History of England from the Revolution in 1688, to the Death of George the Second* (Philadelphia: McCarty and Davis, 1839), p. 452.

anxiety among the respectable. They were, wrote Fielding, a direct cause of crime. They rendered men unable to work and destroyed their sense of fear and shame. The results were theft and robbery, witness the parade of felons brought before him. And what, he wondered, would become of children conceived in gin? "Are these wretched Infants (if such can be supposed capable of arriving at the Age of Maturity) to become our future Sailors, and our future Grenadiers?" Like Paulli, who feared tobacco and caffeinated beverages as racial poisons, Fielding saw cheap gin as a threat to the future of the nation. So did Parliament, which in 1751 substantially increased licensing fees and requirements and imposed higher duties on spirits.[25]

Alarms over national security played a similar role in the fall of absinthe. Made by dissolving wormwood in alcohol with anise and other flavoring agents, this pale emerald-green drink contains the hallucinogen thujone. A favorite with poets and painters, Henri de Toulouse-Lâutrec carried his supply with him in a custom-built cane. Absinthe drinking spread rapidly after the coming of factory production and mass advertising in the nineteenth century. Certain cities, Zurich, Paris, and New Orleans among them, became known for their absinthe drinkers. But fears of "absinthism," insanity, and the demoralization of soldiers led to widespread bans by 1914. [Figure 3]

Yet the prehistory of absinthe, the ancient use of wormwood, often with alcohol, as a medicine presents a completely different picture. The plant was used to treat intestinal worms (hence the name), fevers, epilepsy, and gout. Some believe wormwood was the drug offered to Jesus on the cross. Mixed with white wine and spices, it warded off contagion. Winemakers added sprigs to prevent spoilage. *Wermut*, whence Vermouth, is the German word for wormwood. Wet nurses wiped their nipples with its bitter oil to wean suckling babies. None of this was the least bit controversial.[26]

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[25]Peter Clark, "The 'Mother Gin' Controversy in the Early Eighteenth Century," *Transactions of the Royal Historical Society*, 5th ser., 1988, *38*: pp. 63–84; Fielding, *An Enquiry into the Causes of the Late Increase of Robbers and Related Writings*, ed. Malvin R. Zirker (Middletown, Ct.: Wesleyan University Press, 1988), quotation at p. 90.

[26]Doris Lanier, *Absinthe: The Cocaine of the Nineteenth Century* (Jefferson, N.C.: McFarland, 1995); recipe book for John H. Mundall (MS, 1745–1785), n. p. (warding off contagion), CPPL.

ANOTHER IMPORTED FASHION.

Figure 3. Cartoon associating absinthe drinking with murder, insanity, and suicide. *Harper's Weekly*, 28 (15 September 1883), p. 592.

Amphetamine Democracies

Four medical developments in the nineteenth century accelerated the psychoactive revolution and increased anxieties about its social consequences. These were the isolation and commercial production of psychoactive alkaloids such as morphine and cocaine, the development of hypodermic medication, the discovery and manufacture of synthetic drugs such as chloral hydrate, and the discovery and manufacture of semisynthetic derivatives such as heroin. Heroin is in the "semi" class because its basic ingredient is simply the morphine molecule, to which two small acetyl groups have been added, tripling its potency and speeding the onset of its action. Clinical trials of heroin and other experimental drugs proved that small

changes in molecular structure could produce large changes in effects. This principle revolutionized pharmacology and paved the way for the development of countless new medications, many with psychoactive properties.

Synthetic and semisynthetic drugs originated in Germany, the unrivaled center of pharmaceutical research and development during the late nineteenth and early twentieth centuries. One firm alone, Friedrich Bayer & Co. of Elberfeld, sold or licensed the manufacture of such sedatives and hypnotics as Luminal, Sulfonal, Trional, and Veronal, as well as its two best known products, heroin and aspirin. (The company immodestly titled one of its publications *Materia Medica Bayer*.[27]) Grateful doctors avidly purchased the new sleep-inducing drugs; one Canadian practitioner bought them in 5,000-tablet lots.[28] They soon learned, however, that barbiturates and other new drugs could mean trouble. One reason the word "drug" became associated with addiction in the early twentieth century was that physicians needed a term of convenience to link together all the proliferating substance abuse problems, much the way "cancer" described disparate forms of malignancy. "Drug habit" filled the bill.[29]

Cut off from German supplies and technology, the British and American pharmaceutical industries experienced hothouse growth during World War I. The American industry emerged as the world leader during and after World War II. More than sixty-one percent of new single-chemical drugs introduced from 1941 through 1963 originated in the United States, compared with eight percent for Switzerland, six for Germany, five for Britain, and three-and-a-half for France.[30] Whatever their country of origin, pharmaceutical companies marketed these products internationally, domestic sales being insufficient to recoup the large research and development

[27]*Materia Medica Bayer* (New York: Bayer, ca. 1915), Bayer collection, Medical Trade Ephemera (hereafter MTE), CPP.

[28]Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity* (New York: Norton, 1997), p. 675.

[29]Erika Hickel, "*Das Kaiserliche Gesundheitsamt* (Imperial Health Office) and the Chemical Industry in Germany during the Second Empire: Partners or Adversaries?" John Parascandola, "The Drug Habit: The Association of the Word 'Drug' with Abuse in American History," and Judy Slinn, "Research and Development in the UK Pharmaceutical Industry from the Nineteenth Century to the 1960s," all in *Drugs and Narcotics in History*, ed. Roy Porter and Mikuláš Teich (Cambridge: Cambridge University Press, 1995), pp. 97–113, 156–157, and 168–186.

[30]"Compilation of New Drugs, 1941–1963," reprint from *American Professional Pharmacist*, July 1964, KRF C39(g).

costs. Those that had pleasurable or libidinal effects followed a trajectory similar to their organic predecessors. Drugs that leaked from medical to popular experimentation and use engendered controversy and tightened control. Heroin, barbiturates, anabolic steroids, tranquilizers, hallucinogens, and synthetic narcotics like Demerol all went down this road. Even Viagra, to cite a recent instance, prompted editorial head-wagging the moment it went from a treatment for erectile dysfunction to an experimental aphrodisiac. Similar controversies have erupted when nonmedical products have been used as intoxicants, e.g., gasoline or glue sniffing. The sheer range of psychoactive chemicals available in the industrial environment is why, in recent years, the terms "substance abuse" and "chemical dependency" have gained currency, as they are even more capacious than drug abuse or addiction.[31]

Let us confine ourselves, however, to a single case, that of the amphetamines. This is a group of related drugs whose molecular structures resemble adrenaline. They stimulate both the sympathetic and central nervous systems, producing heightened alertness, wakefulness, and loss of appetite. Because they trigger the release of dopamine, a neurotransmitter that figures importantly in the brain's reward system, they also produce a euphoria similar to that of cocaine. Methamphetamine is a potent and easily synthesized form of the drug popular with illicit manufacturers around the world. Users can swallow it, inject it, or sniff it like cocaine. They can also smoke high-purity methamphetamine crystals. Unlike crack cocaine, the effects of "ice" persist for hours rather than minutes. Chronic use leads to psychosis.[32] It is a formidable drug.

Amphetamines' first commercial use, however, was as a decongestant. Like heroin, which Bayer originally promoted as a cough suppressant, the Philadelphia firm of Smith, Kline, and French (SKF) marketed amphetamine for quick relief from cold symptoms. It was the base ingredient in their over-the-counter Benzedrine inhaler, introduced in 1932. When those who inhaled the drug experienced stimulating, insomniac, and anorectic effects, it seemed that the drug might also prove effective against fatigue, narcolepsy, obesity, and other conditions. By 1946, according to one count, amphetamine had thirty-nine indications, including such disparate

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[31]Michael T. Risher, "Controlling Viagra Mania," *New York Times* (hereafter *NYT*), 20 July 1998.

[32]Robert M. Julien, *A Primer of Drug Action*, 8th ed. (New York: W. H. Freeman, 1997, copyright 1998), pp. 138–142.

conditions as low blood pressure, seasickness, chronic hiccups, and caffeine dependence.

College students found out for themselves that if they took amphetamine they did not need coffee. In 1936 students at the University of Minnesota, guinea pigs in experiments, quickly perceived the drug's utility for all-night parties and exam blitzes. (Human subjects in Psilocybin and LSD trials in the 1950s and early 1960s would glimpse more cosmic possibilities.) Word of "brain" and "pep" pills spread to Wisconsin, Columbia, Chicago, and Purdue. Athletes, teamsters, and racehorse trainers got in on the act. So did the U.S. Army, which issued upwards of 180 million tablets and pills to bomber crews and jungle fighters during World War II.[33] [**Figure 4**]

The expiration of SKF's original amphetamine patents in 1949 brought new firms into the market. Amphetamine production, 16,000 lbs. in 1949, rose to 75,000 lbs. in 1958, equal to 3.5 billion tablets. Nonmedical consumption accounted for half or more. In the 1950s, years not ordinarily associated with drug abuse in America history, an "amphetamine democracy" arose and spread rapidly. It included long-haul truck drivers, veterans, prisoners, students, teenage dabblers, and highflying celebrities. Max Jacobson, the notorious "Dr. Feelgood," whose patients included Yul Brynner, Alan Jay Lerner, and Johnny Mathis, injected John Kennedy with Dexedrine before his historic televised debates with Richard Nixon.[34] By the mid-1960s, when production had reached 8 billion tablets a year, forged prescriptions, bogus wholesale orders, and other diversion tactics supplied a burgeoning amphetamine subculture. [**Figure 5**] Users could even avoid the trouble and risk of getting a prescription or purchasing amphetamines on the black market. "I met a freak at the Hollywood Public Library," wrote James Ellroy, recalling his early life as a thief and drifter. "He told me about Benzedrex inhalers."

> They were an over-the-counter decongestant product encased in little plastic tubes. The tubes held a wad of cotton soaked in a substance called propylhexedrine. You were supposed to

[33]Lester Grinspoon and Peter Hedblom, *The Speed Culture: Amphetamine Use and Abuse in America* (Cambridge, Mass.: Harvard University Press, 1975).

[34]Charles O. Jackson, "The Amphetamine Democracy: Medicinal Abuse in the Popular Culture," *South Atlantic Quarterly*, 1975, 74: 308–323, and idem, "Before the Drug Culture: Barbiturate/Amphetamine Abuse in American Society," *Clio Medica*, 11 (1976), pp. 47–58; Christopher Andersen, *Jackie after Jack: Portrait of the Lady* (New York: William Morrow, 1998), p. 41.

Figure 4. Ads like this one for Methedrine (methamphetamine hydrochloride) ran in American medical journals in the 1950s. Their designers aimed to create a "response habit" among doctors so that they would, as a first resort, prescribe trade-name drugs for certain patient profiles. Detail from a Burroughs-Wellcome advertisement kindly furnished to me by Dr. Stephen Kandall.

stick the tube in your nose and take a few sniffs. You *weren't* supposed to swallow the wads and fly on righteous ten-hour speed highs.

Benzedrex inhalers were legal. They cost 69 cents. You could buy them or boost them all over L.A.

The freak said I should steal a few. I dug the idea. I could tap into a speed source without dope connections or a doctor's

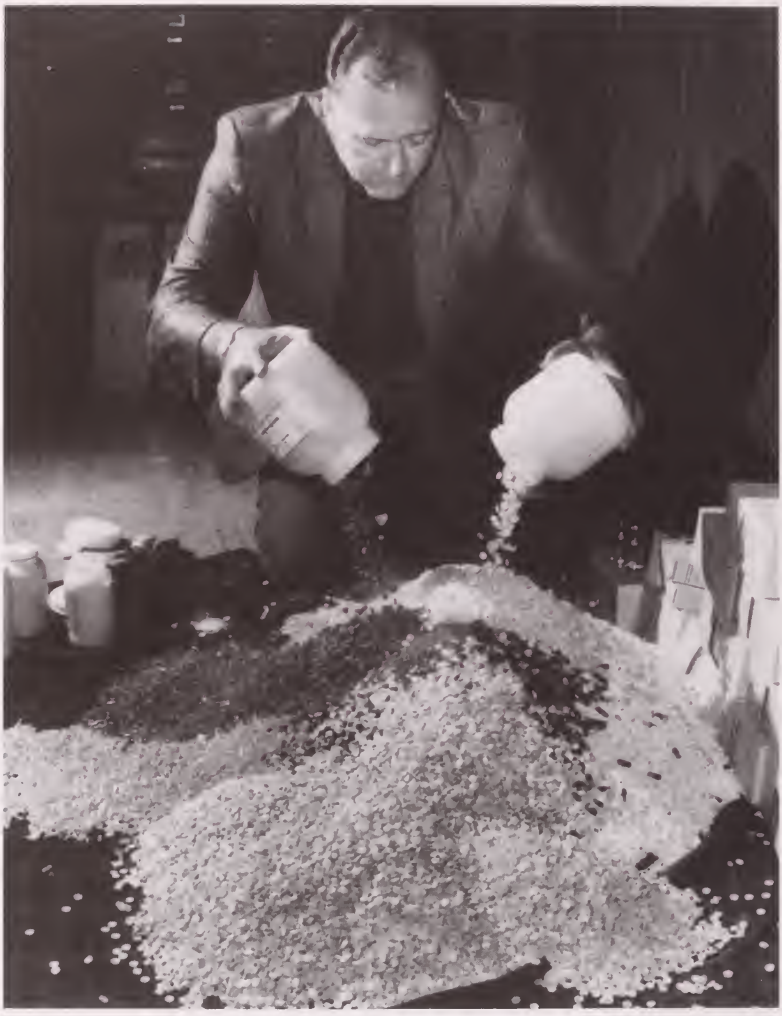

Figure 5. In 1969 Oklahoma, a conservative state in the American heartland, was home to a thriving amphetamine traffic. Here 258,000 "pep pills" are prepared for a kerosene bath and burial. Officials seized them from a Muskogee druggist who pleaded guilty to illegal sales of amphetamines and barbiturates. KRF Drug Topics Collection, Drug Abuse, 1969–1970.

prescription. I stole three inhalers at a Sav-On drugstore and hunkered down to chase them with root beer.

The wads were two inches long and of cigarette circumference. They were soaked in an evil-smelling amber solution. I gagged one down and fought a reflex to heave it back up. It stayed down and went to work inside half an hour.

The high was *goooooood*. It was brain-popping and groin-grabbing. It was just as good as a pharmaceutical-upper high.

I went back to my spot in Robert Burns Park and jacked off all night. The high lasted eight solid hours and left me dingy and schizzy. T-bird took the edge off and eased me into a fresh euphoria.

I'd found something. It was something I could have at will. I went at it willfully.

This is an archetypal story of amphetamine abuse: a tip from a disreputable source, diversion by theft, a bad initial reaction followed by a powerful high. Ellroy had swallowed the equivalent of twenty-five 10 mg tablets. He brought himself down with other drugs. T-bird is Thunderbird, a cheap wine. He kept using, built up a huge propylhexedrine tolerance, taking ten to twelve cotton wads at a time. Monsters jumped out of the toilet. Ellroy made a deal with God. "I told him I wouldn't drink or pop inhalers. I told him I wouldn't steal. All I wanted was my mind back for keeps." He quit alcohol and amphetamine, experimented with marijuana maintenance, then joined Alcoholics Anonymous. L.A.'s Westside AA swung hard in the late 1970s with "Hot Tub Fever" after meetings and nude pool parties. It worked anyway. He stayed clean and became a famous L.A. crime writer.[35]

This was not the sort of odyssey SKF had in mind for its consumers. The company tried various tricks to prevent abuse, such as adding denatured picric acid to discourage wick-eating. Determined users simply endured the bitter taste and nausea to get the high. Yet had SKF and its imitators succeeded in designing abuse-proof inhalers, the amphetamine democracy would still have taken root. Pharmaceutical companies aggressively promoted amphetamines for so many conditions that leakage was bound to occur.

Detail men plied doctors with free samples and expensive brochures. "Fat people die first," proclaimed one, underscoring the

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[35]Ellroy, *My Dark Places: An L.A. Crime Memoir* (New York: Knopf, 1996), pp. 135–153, quotation at 135 with spelling of propylhexedrine corrected.

point with anatomical renderings of fatty hearts and greasy livers. "Few therapeutic regimens have been adopted so widely, so quickly and with such generally satisfying results as the use of Dexedrine sulfate in weight control." Dexamyl, an amphetamine-barbiturate combination, was just the thing for "the management of everyday mental and emotional distress," including patients experiencing money problems, family strife, anxiety over aging, bereavement, or spells of frustration. In other words, all of us. As late as 1953 SKF's official *Dexedrine Reference Manual* denied the possibility of addiction, conceding only and grudgingly that psychic "habituation" might occur in certain patients but then "habituation may occur to pink water."[36]

Whenever doctors treat a host of vague complaints by handing out powerful drugs flying the false colors of safety, they act as the sorcerer's apprentices. Some patients decide they can keep on taking the medicine for other purposes. After all, it cannot do any harm. They urge it on their friends. It helped my blues, my hangover, my fatigue, my weight problem, my sex life; it will help yours. Those who continue using get their supplies from physicians, concocting various stories to obtain prescriptions, or purchase directly from profiteering pharmacists and other illegal suppliers. Extramedical use evolves out of authorized medical use in a process of parallel chain reactions. The more aggressive pharmaceutical companies are in promoting and the more indiscriminate physicians are in prescribing, the more parallel chains are set in motion and the sooner the drug is democratized.

This democratization often brings official intervention. The hammer fell in 1971 when the federal government, alarmed by the rising tide of amphetamine production (then twelve billion tablets) and the growing specter of a methamphetamine-based injection subculture, announced strict manufacturing quotas. Users could still purchase pharmaceutical amphetamine on the black market, though they ran an increasing risk of being cheated with "look-alike" products, counterfeit mixtures of caffeine, ephedrine, or other stimulant drugs.[37] Clandestine methamphetamine laboratories supplied the

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[36]*Fat People Die First* (ca. 1955), *Dexamyl Tablets and Elixir for the Management of Everyday Mental and Emotional Distress* (ca. 1951), and *Dexedrine Reference Manual*, 3rd ed. (1953), pamphlets in SKF Collection, MTE, CPPL.

[37]John P. Morgan, "Duplicitous Drugs: The History and Recent Status of Look-alike Drugs," *Journal of Psychoactive Drugs*, 19 (1987), pp. 21–31.

real thing, filling the vacuum created by the federal crackdown on diversion.[38]

As it happened 1971 was also the year in which the French banned Corydrane, an over-the-counter preparation marketed by Delagrange Laboratories. Each tube of twenty tablets contained 50 mg of aspirin and 144 mg of racemic amphetamine. The stated indications were for influenza, coryza, "algia," and "asthenia," the last two terms broadly referring to "pain" and "weakness." Corydrane was soon popular with customers other than those suffering from flu and runny noses. Men took it as an aphrodisiac; cyclists boosted their energy;[39] students, artists, and intellectuals stoked their creative fires. Jean-Paul Sartre wrote his *Critique de la Raison Dialectique* (1960) on a diet of coffee, tea, cigarettes, pipe tobacco, alcohol, barbiturates, and Corydrane tablets, which he chewed like candy. The book was a prolix dud. Interestingly, when Sartre composed his more enduring literary works, he shunned all synthetic drugs, confining himself to a thermos of strong tea.[40]

The Japanese cracked down on pharmaceutical amphetamines much sooner than the French or the Americans; they consequently experienced an earlier shift to purely illicit supplies. During World War II Japanese soldiers and aviators used methamphetamine to sustain their *senryoku*, "war strength" or "war energy." Construction and munitions workers took the drug in a doomed attempt to keep up production in the face of incendiary raids and mounting labor shortages. In 1945 manufacturers began cleaning out stocks of war-surplus ampules, advertising them with such slogans as "elimination of drowsiness and repletion of the spirit." They were available at low cost, without prescription, and in an atmosphere of demoralization and weakened social controls.

Japanese physicians began seeing cases of amphetamine addiction in 1946. Most addicts were young men from slum districts, often of Korean or Chinese ancestry. No social group was entirely exempt, however, nor was dissipation necessarily the leading motive

[38]Marissa Miller and Nicholas Kozel, "Amphetamine Epidemics," *Encyclopedia of Drugs and Alcohol*, vol. 1, ed. Jerome H. Jaffe (New York: Simon and Schuster Macmillan, 1995), pp. 110–117.

[39]Roger Thomas, trans., "Interview with 1966 Tour winner, Lucien Aimar," www.cyclingnews.com/results/1998/jul98/jul31a.shtml, accessed 23 January, 1999.

[40]Annie Cohen-Solal, *Sartre: A Life*, trans. Anna Cancogni (New York: Pantheon, 1987), pp. 373–375; Ronald Hayman, *Sartre: A Life* (New York: Simon and Schuster, 1987), pp. 248–249, 341–343.

for nonmedical use. Stimulant drugs (not excepting caffeinated beverages) have intrinsic appeal in high-pressure, work-oriented societies like Japan's. "Japan is the type of society that needs methamphetamine," explained one longtime Tokyo resident. "The treadmill is very fast and people use it to stay on."[41] Data bear out the anecdote. Only fourteen percent of current amphetamine users surveyed in Japan in 1955 listed pleasure as the reason for beginning use of the drug. Night work and study accounted for twenty-six percent, curiosity for twenty-six percent, peer endorsement for twenty-eight percent, and "despair" for five percent.[42]

As the amphetamine epidemic gained momentum, the Japanese government enacted progressively stricter measures governing advertising and availability and increased penalties for illicit manufacture and sale. In January 1955, when there were some two million users in the country, it launched a comprehensive national educational campaign. Slide shows, posters, and community meetings alerted the populace to the dangers of stimulants. The government mandated treatment and drastically increased the number of psychiatric beds available for addicts. This campaign, one of the first modern, multi-front drug wars, succeeded in ending the wave of postwar amphetamine abuse.[43]

Unfortunately drug abuse in nations, like addiction in individuals, is a chronic relapsing disorder. "To say the Truth," wrote Fielding, "bad Habits in the Body Politic, especially if of any Duration, are seldom to be wholly eradicated."[44] Amphetamine use persisted at a low, endemic level among Japanese *yakuza* (organized criminals), truck drivers, and laborers. Then, coincident with growing affluence and baby boomers entering their twenties, it took off again in the 1970s and 1980s, peaking in 1984. The supply was wholly illicit in character. The *yakuza* derived thirty-five to fifty percent of their annual income from traffic in the drug, smuggled

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[41]David E. Kaplan and Alec Dubro, *Yakuza: The Explosive Account of Japan's Criminal Underworld* (Reading, Mass.: Addison-Wesley, 1986), p. 199.

[42]Kiyoshi Morimoto, "The Problem of the Abuse of Amphetamines in Japan," *Bulletin on Narcotics*, 9 (1957), p. 11.

[43]Takemitsu Hemmi, "How We Have Handled the Problem of Drug Abuse in Japan," in *Abuse of Central Stimulants*, ed. Folke Sjöqvist and Malcolm Tottie (New York: Raven Press, 1969), pp. 147–153; Henry Brill and Tetsuya Hirose, "The Rise and Fall of a Methamphetamine Epidemic: Japan 1945–55," *Seminars in Psychiatry* 1 (1969), pp. 179–194.

[44]Fielding, *Enquiry*, p. 78.

from clandestine laboratories in Korea and later Taiwan and China.[45]

Amphetamines in Sweden initially came from licit pharmaceutical stocks. The drug was introduced in 1938 and restricted to prescription sale in 1939. But doctors were liberal: in 1942 they were prescribing amphetamines to three percent of the Swedish population. The vast majority, more than 200,000 patients, used amphetamines only occasionally, to cope with overtime or spells of depression. But 3,000 Swedes became near-daily or daily users, some building up tolerances as high as 100 tablets in twenty-four hours. A few of the early amphetamine addicts were also morphine users. They learned to dissolve and inject the tablets, a technique that spread in bohemian circles in the early 1950s. By then amphetamines were becoming popular with criminals, supposedly introduced by artists' models with one foot in the atelier and the other in the gutter. Between 1949 and 1965, according to psychiatrist Nils Bejerot, the number of addicts to amphetamine and related stimulants like phenmetrazine doubled in Sweden every 30 months. From 1965 to 1967, during a brief experiment in medical maintenance, legal, state-financed amphetamines provided through doctors' prescriptions, the number of addicts doubled in Sweden in just twelve months. The government reverted to a restrictive policy. By 1968 the prescription of stimulants required special permission, granted only 343 times for the entire country.[46]

Bejerot, who looked broadly at the history of drug epidemics, likened them to infectious diseases. Their central feature, he decided, was proselytizing by young male enthusiasts not yet acquainted with the long-term destructive effects of drugs. Doctors might seed an epidemic or accelerate one in progress. Bejerot called the diversion-prone maintenance experiment of the mid-1960s the worst scandal in Swedish medical history. The key dynamic was nevertheless the young turning on the young. "If you go to a fine restaurant and you

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[45]H. Richard Friman, "Awaiting the Tsunami? Japan and the International Drug Trade," *Pacific Review*, 6 (1993), pp. 41–50, and idem, "Gaijinhanzai: Immigrants and Drugs in Contemporary Japan," *Asian Survey*, 1996, 36: pp. 964–977; Kiyoshi Wada, "Cocaine Abuse in Japan," *Japanese Journal of Alcohol and Drug Dependence*, 29 (1994), pp. 84–85; "Easy Money for Asian Gangs," *South China Morning Post*, 6 February 1994.

[46]Nils Bejerot with Carol Maurice-Bejerot, *Addiction and Society* (Springfield, Ill.: Charles C. Thomas, 1970), p. 115 *et passim*; *Abuse of Central Stimulants*, ed. Sjöqvist and Tottie, pp. 187–304.

like it very much," explained one Stockholm addict, "then you tell your friends to go there. [This] is not recruiting. You tell them because you want them to enjoy. It is the same with us."[47]

Bejerot thought that only decisive government action, including the forced quarantine of addicts, could check the natural geometrical progress of drug epidemics. He openly admired the campaigns of the Japanese government against stimulants and that of the Chinese Communists against opiates. History's lesson, he concluded, was that the mass abuse of drugs was not "a mysterious and inexplicable natural catastrophe, but a form of social disintegration which can be understood and even controlled."[48]

Though not eliminated, prescription restrictions and other legal countermeasures drove the Swedish traffic underground, where it survived servicing the demands of its most reliable customers, the socially marginal and deviant users. Some illicit stimulants originated locally, but most were smuggled in from Germany, Spain, and other European countries.[49] These included, after the end of the Cold War, former Soviet satellites and republics that bred amphetamine mafias in the first flush of capitalist independence. The Soviet Union, lamented *Komsomolskaya Pravda*, had turned into "Narcostan," the land of drugs.[50]

In Sweden as elsewhere the injection subculture turned ugly. Emaciated injectors roamed aimlessly in condemned, needle-strewn flats, pausing only to get "freshly lit" or "flame out" with sleeping pills and sweet wine. Desperate users forged checks and sold their bodies; paranoid ones pulled knives on the police and passersby. Street sales became flash points of violence. Christer Pettersson, imprisoned for life for murdering Prime Minister Olof Palme in 1986, was an alcoholic and amphetamine addict who confessed to a run of 600 robberies between 1970 and 1977. Most of his victims were amphetamine dealers.[51]

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[47]Richard Severo, "Mainlining Amphetamines Rising Problem in Sweden," *NYT*, 10 April 1970, p. 41.

[48]James M. Markham, "Quarantining of Drug Addicts Urged to Halt Epidemic," *NYT*, 8 May 1972, p. 74.

[49]Thomas J. Hamilton, "U.N. Narcotics Group Seeking a Tighter Curb on 'Pep' Drugs," *NYT*, 25 January 1969.

[50]["Drug Production Grows,"] *Gazeta Wyborcza* no. 45, 22 February 1995; John-Thor Dahlburg, "Tracking the Russian Connection," *Los Angeles Times*, 6 June 1993 ("Narcostan").

[51]"Swedish Premier's Convicted Killer Confesses to 600 Robberies," *Reuter Library Report*, 14 September 1989.

The epidemiologist John Ball calls the discovery, commercial exploitation, and popularization of synthetics like amphetamine the outstanding change in the world drug scene since World War II. "These new drugs," he wrote in 1975, "have had general acceptance by the medical profession, and their ethical use has been widespread, especially in Europe and the United States. Concomitant with their legitimate medical use, however, there has rapidly developed an illicit traffic and widespread abuse."[52] Whether their medical use was invariably "legitimate" is debatable, though Ball's central point is not: pharmaceutical innovation greatly increased the number of potential drugs of abuse and potential abusers. Multiple patterns of recreational use proliferated among the young in western nations and soon spread elsewhere, witness the growing popularity of amphetamines and other synthetics in Guatemala, Nigeria, the Philippines, and other developing nations.[53] Worldwide, the number of clandestine laboratories detected manufacturing amphetamine and related stimulants increased sixfold between 1980 and 1994. The explosive growth of the Internet, which made more detailed information on more drugs available to more people than ever before, further simplified the illicit manufacturing process.[54]

The Medical Dilemma

The shift from medical to popular consumption has occurred for all types of psychoactive drugs, plant, alkaloid, semi-synthetic, and synthetic. Over the years physicians' concern about this process produced an impressive body of admonitory literature of the "damn fool" variety. The damn fool in these cautionary tales is the patient who smokes or drinks more than his constitution can bear, dumps too much sugar in the tea, drinks too much coffee, takes too many pills, or otherwise abuses substances which are valuable when taken in moderation and in the right circumstances. Damn fools disinclined to heed published warnings got the message in person. Sir

[52]Ball et al., "Changing World Patterns of Drug Abuse, 1945–1974," *International Journal of Clinical Pharmacology*, 1975, 12: pp. 109–113, quotation at pp. 110–111.

[53]"Amphetamine Abuse a World Epidemic," *Chicago Tribune*, 17 November 1996.

[54]United Nations, *Special Session on the World Drug Problem, New York, 8–10 June 1998*, information sheet no. 2 (1998), p. 3, and idem, *Report of the International Narcotics Control Board for 1997* (New York: 1998), p. 5.

William Osler, remembered today as the apostle of scientific medicine, spent much of his time in private practice simply advising patients to mind their smoking, drinking, exercise, and diet. He once took matters into his own hands, scattering a box of forbidden chocolates over a patient's bed.[55]

Physicians have just as frequently warned one another about drug potency, contraindications, side effects, and abuse potential. They have offered tips on safety: Don't let the patient know what he is taking. Don't leave the syringe at her bedside. Such criticism and advice have often appeared in journal articles and textbooks, but also in less formal settings such as consultations, hospital rounds, lecture rooms, personal correspondence. "Incidentally, I have seen and treated two Milltown [sic] addicts in the past few months," cautioned one Dallas physician in a 1961 letter. "Too many people have been told that it is harmless or innocuous and they eat them like peanuts."[56]

The sheer volume and repetitiveness of such complaints are clues to a deeper conflict at the heart of medical practice. Historically, few physicians have abandoned psychoactive drugs when they first heard reports of poisonings, diversion, or addiction. As the American physician Stephen Tabor wittily observed, if he and his colleagues set aside every medicine whose abuse had occasioned mischief, not one would be left.[57] Eventually, doctors do become more circumspect about abusable drugs, though such therapeutic conservatism often takes years to develop. Sometimes, as in the Japanese and Swedish amphetamine episodes, the state forces their hands.

One reason for the lag is a financial conflict of interest. From Hippocrates onward doctors have understood that, for most patients, they can do little other than prognosticate and let nature take

[55]Michael Bliss, "What's a Doctor? How William Osler Practiced Medicine," paper presented at the American Association for the History of Medicine meeting, New Brunswick, N.J., 8 May 1999.

[56]Charles B. Shuey to Lawrence Kolb, 2 May 1961, Lawrence Kolb Papers, History of Medicine Division, National Library of Medicine, Bethesda, Maryland. Representative articles about the mis- or overuse of different drugs in different cultural settings are "Wyma.," "Opium-Eating Teetotallers," *Journal of Psychological Medicine and Mental Pathology*, new series, 7 (1881), pp. 74–77; Ovide Bouret, "Un Nouveau Cas de Caféisme Chronique," *L'Écho Médical du Nord*, 6 (1902), pp. 171–173; Samuel W. Goldstein, "Barbiturates: A Blessing and a Menace," *Journal of the American Pharmaceutical Association*, January 36 (1947), pp. 5–14.

[57]Tabor, "Early Names and History of Tobacco," *Boston Medical and Surgical Journal*, 32 (1884), p. 15.

its course. Yet patients and their families expect them to do something to cure the illness or at least to alleviate its symptoms. Doctors who succeed in meeting these expectations reap financial and emotional rewards. Those who do not lose patronage. In these circumstances drugs that provide pleasure, alleviate pain, dispel depression, restore energy, or bring sleep are attractive options. But how to weigh their potential abuse against their humanitarian and financial advantages? And who should do the weighing? [**Figure 6**]

The conflict is even more apparent in the history of pharmacy. A century ago the big ethical question was whether pharmacists should sell drugs "indiscriminately" or to known addicts, lucrative customers who were nevertheless harming themselves and their families. One progressive New York pharmacist answered by suggesting that all reputable shops prominently display a sign, "A greedy criminal druggist will sell you morphine or cocaine; we are not of that kind." But things were not so simple in practice. Another prominent New York druggist wrote an article for a professional

Figure 6. Patients and their families expect physicians to prescribe drugs to cure their illnesses or at least to alleviate their symptoms. The do-something imperative at the heart of modern medicine increases public exposure to, and eventually nonmedical use of, psychoactive drugs. Undated Danish prescription envelope from Gammeltorvs Apotek, København, KRF C39(g): Prescription Envelopes.

journal flatly condemning the sale of narcotics to addicts. One day his assistant observed the eminence dealing out a quantity of opium to a man who was plainly addicted. Confronted with the inconsistency, he protested that the man was the only one of his kind, that he had been supplying him for twenty-five years, "and that a refusal to sell it to him would only be the means of driving a good customer to another store."[58]

This was the control problem in microcosm. Profit-minded druggists, "dope doctors," or rogue manufacturers could frustrate attempts to confine drug usage to legitimate medical practice. Such control was the central goal of drug policy as it evolved in the twentieth century. Though national drug laws differed over important details, such as addicts' eligibility for maintenance doses, the basic approach was everywhere the same. It was to control supply by regulating choke points in the producer-to-user drug flow through manufacturing quotas, licenses, prescription sales, triplicate record keeping, or other bureaucratic devices. The more dangerous the drug, the tighter the regulations, a concept embodied in different "schedules," or lists of controlled substances, appended to statutes and international treaties. The object of this bottleneck thinking was to reduce the aggregate supply of legally manufactured drugs and the likelihood of diversion, while maintaining a sufficient flow for ethical medical prescribing and research.[59]

The ever-growing variety of potent synthetics posed an obvious challenge to the international drug control regime. Before World War II the system regulated essentially three basic categories of drugs, those derived from opium, coca, and cannabis. Its creators did not envision the development of hundreds of new synthetics. They did not foresee that some of those synthetics, like etorphine, would be thousands of times more powerful than morphine.[60] And they did not anticipate that millions of nonmedical users would surface after the new synthetics escaped from clinical control.

The parallel with nuclear weaponry has struck several writers. Drug researchers, the psychologist Wayne Evans observed in 1971,

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[58]"We Want to Know," *Pharmaceutical Era*, 29 (1903), p. 445; J. Stanford Stowell, "Experiences of a Dispensing Pharmacist with Opium Fiends," *Merck's Report*, 6 (1897), p. 629.

[59]William B. McAllister, "A Limited Enterprise: The History of International Efforts to Control Drugs in the Twentieth Century" (Ph.D. diss., University of Virginia, 1996), forthcoming as a book from Routledge.

[60]Charles F. Levinthal, "Milk of Paradise/Milk of Hell: The History of Ideas about Opium," *Perspectives in Biology and Medicine* 28 (1985), p. 572.

faced the same moral dilemmas encountered by physicists in the run-up to the Manhattan Project. New psychoactive synthetics, like the release of nuclear energy, held an enormous potential for evil as well as for good. Help-the-patient, like defeat-the-fascists, was a powerful justification for their development. But what of those who might divert the technology to other ends? Nathan Kline, a brilliant and controversial American researcher, the Edward Teller of psychopharmacology, stated the issue concisely. The real question, he said, was not how to come up with new drugs to influence behavior and emotional states. That was comparatively easy. Much harder was "determining who should make the decisions as to when they should be used, on whom and by whom."[61]

The refusal of some strategically placed individuals to submit to conventional authorities compounded the who/whom problem. Timothy Leary abandoned a promising academic career ("LSD is more important than Harvard")[62] and ultimately his freedom, spending several years in prison, to champion the psychedelic cause. Seeking political asylum in Switzerland, he encountered Albert Hofmann, the Sandoz researcher who had discovered the hallucinogenic properties of the drug in 1943. One day in September 1971, the father of LSD and the drug's apostle-in-chief met to discuss their differences over a meal of fish and white wine. Hofmann, who had entertained hopes that LSD might be used in the interests of psychiatric healing, was cordial but frank. Leary's efforts to seduce youth, for whom LSD was particularly dangerous, appalled him. Leary, he said, should have shunned publicity and stuck to quiet scientific investigation in an academic milieu.

Leary had three attributes indispensable to any true revolutionary: a contempt for caution, an indifference to casualties, and a knack for casuistry. He protested to Hofmann that the American teens he urged to turn on, tune in, and drop out had matured quite early. With so much information and life experience, they were comparable to adult Europeans! As for publicity, it was necessary to accomplish his historic mission. The overwhelmingly positive effects of getting out the good news about LSD would make any injuries and accidents, however regrettable, a small price to pay. Though Hofmann did not doubt Leary's idealism, he found it dan-

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[61]*Psychotropic Drugs in the Year 2000: Use by Normal Humans*, ed. Evans and Kline (Springfield, Ill.: Charles C. Thomas, 1971), pp. xx, 77.

[62]Peter Stafford, *Psychedelics Encyclopedia*, 3rd ed. (Berkeley: Ronin, 1992), p. 51.

gerously misguided. "Wrong and inappropriate use," he sighed in his memoirs, "has caused LSD to become my problem child."[63]

The use/abuse dichotomy, common in medical literature, appears in its strongest form for narcotics and other highly addictive drugs, which Leary himself opposed. "The use of addicting preparations," declared Nils Bejerot, "is medically defensible only in definite morbid conditions, and then, of course, under strict and competent medical control. All other use of these drugs is to be regarded as abuse." An anthropologist might question whether customary self-medication with opium to combat endemic diseases was "abuse" because it did not occur under the gaze of "strict" and "competent" authorities. Still, the distinction between medical use and recreational abuse has been present from the beginning of the psychoactive revolution; it has operated in Jewish, Christian, Islamic, Buddhist, and, to a lesser degree, Hindu cultures suspicious of intoxication; and it has hardened into the central moral assumption of the international control regime. Natural or synthetic, drugs that slip from organized medicine's grasp continue to evoke cries of concern and appeals for other forms of control.[64]

[63]Hofmann, *LSD: My Problem Child* (New York: McGraw Hill, 1980), pp. xii, 73–80.

[64]Bejerot, *Addiction: An Artificially Induced Drive* (Springfield, Ill.: Charles C. Thomas, 1972), p. 13.

The "Agrarian Myth" and Student Health at the University of Pennsylvania

Heather Munro Prescott[1]

In his 1749 proposal to create the institution that would eventually become the University of Pennsylvania, Benjamin Franklin wrote that the masters should "look on the students as in some sort their children." Franklin argued that to keep students "in health, and to strengthen and to render active their bodies, they [should] be frequently exercised in running, leaping, wrestling, and swimming."[2] Franklin was not the first American to express concerns about the health of the student body: rules and regulations designed to protect the health and welfare of students date back to the beginning of higher education in the United States during the seventeenth century. Although few early American colleges had organized exercise programs for students, they did provide housing and dining facilities and impose strict regulations on behavior in order to preserve both the physical and moral well-being of students. These policies were based partly on the young age of college students: many were boys in their early to mid-teens, a fact which was used to justify paternalism of antebellum colleges.[3] The University of Pennsylvania's desire to emulate the "collegiate way of life" at other colonial colleges led to the construction in 1765 of a residence hall for students, many of whom were as young as ten or twelve years of age.[4]

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[2]Benjamin Franklin, *Proposals Relating to the Education of Youth in Pennsylvania* (Philadelphia, 1749).

[3]Frederick Rudolph, *The American College and University: A History* (New York: Knopf, 1962), pp. 86–109.

[4]Edward Potts Cheyney, *History of the University of Pennsylvania, 1740–1940* (Philadelphia: University of Pennsylvania Press, 1940), pp. 53–54.

This article will use the history of student health at the University of Pennsylvania as a case study of how location influenced the health policies of particular campuses. It will focus on how the University of Pennsylvania responded to what the historian of education Frederick Rudolph refers to as an "agrarian myth," which depicted rural campuses as more healthful than colleges in urban settings. Parents, students, and college officials alike also believed that rural campuses were free from the massive public health problems that plagued most large cities by the middle of the nineteenth century. Furthermore, rural campuses were believed to be insulated from the evil temptations of the city such as prostitution, gambling, drinking, and other vices. Fears about the impact of immigration added fuel to this image of agrarian purity, as concerns about the allegedly filthy habits of recent immigrants led many white, native-born parents to prefer rural colleges where their children would not have to mingle with "dirty foreigners."[5]

The preference for rural campuses also reflected changes in the regulation of male student life at American colleges and universities. After the Civil War, many campuses abandoned or reduced parietal regulations for male students, if they had them at all. This was done mainly for practical reasons: dining halls and dormitories were expensive to build and maintain. Male students were also difficult to control, and by the middle of the nineteenth century expressed their disdain for parietal rules by engaging in increasingly disruptive riots and acts of violence. Most institutions of higher education found it easier to control the behavior of young men indirectly by closely supervising female students.[6] Colleges and universities established after the Civil War likewise tended to take a laissez-faire attitude toward the regulation of male student life. In the absence of strict controls of male student behavior, rural campuses appeared to present fewer dangers and temptations to college men.[7]

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[5]Frank Rudolph first developed this concept of an "agrarian myth" in *The American College and University*, pp. 95–96.

[6]Beth Bailey, *From Front Porch to Back Seat: Courtship in Twentieth Century America* (Baltimore, MD: The Johns Hopkins University Press, 1988), pp. 84–85.

[7]David F. Allmendinger, Jr., *Paupers and Scholars: The Transformation of Student Life in Nineteenth-Century New England* (New York: St. Martin's Press, 1975); Helen Lefkowitz Horowitz, *Campus Life : Undergraduate Cultures from the End of the Eighteenth Century to the Present* (New York: Knopf, 1987).

A notable exception to this trend toward lessened control of student life was evident in women's colleges and the women's divisions of coeducational institutions. Concerns about the impact of higher education on female health led many institutions to increase their protection of the female student body by requiring women students to either live on campus or in housing that was thoroughly inspected and approved by the university. These institutions also began providing health services and physical education for female students. Although this did protect women from some hazards to their health, parietal rules frequently served to limit women's access to higher education, since requirements that female students reside on campus essentially imposed an unofficial quota on female admissions.[8]

At the University of Pennsylvania, trustees and faculty used concerns about the impact of higher education on female health to justify denying women full admission to undergraduate programs.[9] University officials closely adhered to the advice of the renowned Philadelphia neurologist S. Weir Mitchell, who claimed that many of the female health problems he observed in his practice resulted from the mental and physical damage inflicted on women by higher education. In an address to the graduating class of Radcliffe College, Mitchell stated that while he was not entirely opposed to collegiate education for women, he also believed that "if the higher education or the college life in any way, body or mind, unfits women to be good wives and mothers there had better be none of it." Mitchell praised the women's colleges that had recognized the dangers of collegiate education on female health, and appointed physicians to "prevent disaster by due regulation of work, play, diet, exercise, and the inhibition of mind-labor when physiology

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[8]Charlotte Conable, *Women at Cornell: The Myth of Equal Education* (Ithaca, NY: Cornell University Press, 1977).

[9]The best known treatise against female higher education during the late nineteenth- and early-twentieth centuries was Dr. Edward Clarke, *Sex in Education, or a Fair Chance for the Girls* (Boston: Osgood and Co., 1873). See also the collection of popular articles in Louise Michelle Newman, *Men's Ideas/Women's Realities: Popular Science, 1870–1915* (New York: Pergamon Presss, 1985). For secondary literature on women, health, and education during this time, see Sheila Rothman, *Woman's Proper Place: A History of Changing Practices, 1870 to the Present* (New York: Basic Books, 1978); Rosalind Rosenberg, *Beyond Separate Spheres: Intellectual Roots of Modern Feminism* (New Haven, CT: Yale University Press, 1982); Carol Smith-Rosenberg, *Disorderly Conduct: Visions of Gender in Victorian America* (New York: Knopf, 1985); and Cynthia Eagle Russett, *Sexual Science: The Victorian Construction of Womanhood* (Cambridge: Harvard University Press, 1989).

and reason forbid it."[10] Trustees and faculty at the University of Pennsylvania were unwilling to provide services for girls and young women *in loco parentis* and used concerns about the effects of higher education on women's health to justify severe limits on female admissions. Between 1877 and 1914, women students were admitted as "special students" in the Towne Scientific School and a few were allowed to study in some of the graduate and professional schools. After the opening of the School of Education in 1914, women were allowed to receive a bachelor's degree in the normal program in education. Women were excluded from the undergraduate college until 1933, partly because of fears about how education would affect their health, but also because administrators wanted to preserve the University's prestige relative to other all-male colleges.[11]

During most of the nineteenth century, officials at the University of Pennsylvania were reluctant to assume responsibility for male students, largely because they believed doing so was superfluous. The average age of male students had increased to eighteen by the time of the Civil War, and many administrators believed that men did not need the close supervision that had been imposed on the young boys who attended the school in its early days. According to Mitchell, male students of eighteen or nineteen were well beyond the "age of development" and therefore had "no physiological need" for the parietal rules imposed on female students at the women's colleges.[12] Furthermore, administrators reasoned that most students "came decorously every morning from their parents' homes on Walnut Street or from far-off Germantown, and were safely home by candlelight." The occasional out-of-state student was there "only because he had friends in Philadelphia, with whom he could find a safe and real home."[13] Since students lived either at

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[10]Silas Weir Mitchell, "Address to Radcliffe Students," January 17, 1895. Class of 1899 Collections, Alumnae Association, RG IX, Series 7, Radcliffe College Archives, Schlesinger Library, Radcliffe College, Cambridge, Massachusetts. Mitchell gave a similar message in an Address before Girls' High School of Philadelphia [n.d.], S. Weir Mitchell Papers, Series 7.2, Box 17, Folder 24, Historical Library, College of Physicians of Philadelphia (hereafter referred to as CPP).

[11]Martin Meyerson and Dilys Pegler Winegrad, *Gladly Learn and Gladly Teach: Franklin and His Heirs at the University of Pennsylvania, 1740–1976* (Philadelphia: University of Pennsylvania Press, 1978), pp. 124, 213.

[12]Mitchell, "Address to Radcliffe Students"; idem., "Dr. Mitchell on Athletics: Address Before the New York City Alumni Association, 16 January 1906," S. Weir Mitchell Papers, MSS 2/0241–03, Series 7, Box 16, FF 7.2, Historical Library, CPP.

[13]University of Pennsylvania, *The Dormitory System as Designed by Cope & Stewardson, Architects* (Philadelphia: Privately printed, 1895), pp. 4–5.

home in Philadelphia or its suburbs, or boarded with "nice" families in the city, they did not need a replacement home at college. This line of reasoning could have been extended to female undergraduates, but fears that the University of Pennsylvania's reputation would suffer if women were admitted on the same basis as men, combined with a desire to preserve the manly character of the undergraduate college, prevented this from happening. The few women who were allowed to attend the University of Pennsylvania were segregated from men both within and outside the classroom. Women attended separate classes, and were barred from all non-academic university facilities.[14]

During the late nineteenth and early twentieth centuries, several factors convinced the administration at the University of Pennsylvania that they needed to take greater precautions to protect the male student body. First were changes in the physical environment of the city of Philadelphia. Reports about corruption in city government, crowded immigrant tenements, epidemics of infectious diseases, and inadequate control of public health weakened "Filthydelphia's" national reputation. In the words of the noted muckraker Lincoln Steffens, Philadelphia was a "disgrace" not only to itself and Pennsylvania "but to the United States and American character."[15] The University's administrators were embarrassed to discover that as a result of these reports, many Trustees and alumni preferred to send their sons to rural colleges because parents presumed that the absence of the physical dangers of the city would promote good physical and moral health.[16]

Concerns about the physical and moral quality of the neighborhood surrounding the University of Pennsylvania prompted a move during the 1870s from Ninth Street to a new campus in West Philadelphia. Considered a "genteel" neighborhood in the early nineteenth century, the area around Washington Square had become increasingly rundown after the Civil War, as wealthier families abandoned the area for more fashionable quarters, leaving the

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[14]Andrew K. Becker and Michelle A. Woodson, "Rites of Passage: Student Traditions and Class Fights," in *A Pennsylvania Album: Undergraduate Essays on the 250th Anniversary*, eds. Richard Slator Dunn and Mark Frazier Lloyd (Philadelphia: University of Pennsylvania, 1990), pp. 32–33.

[15]Lincoln Steffens, *The Shame of the Cities*, quoted in Michael P. McCarthy, *Typhoid and the Politics of Public Health in Nineteenth-Century Philadelphia* (Philadelphia: American Philosophical Society, 1987), p. 3.

[16]Cheyney, *History of the University of Pennsylvania*, p. 395.

area to recent immigrants and decrepit student boarding houses. Worried that the Ninth Street neighborhood was "vile" and "growing viler every day," the University, in 1870, purchased ten acres of farmland west of the Schuykill river in what was then semi-rural West Philadelphia, an area that administrators believed was "ideally situated for a community requiring academic quiet and comparative isolation."[17]

Initially, no dormitories were included in the new campus, since the University wanted to avoid the expense and inconvenience of supervising young men. However, changes in the institutional mission of the University led administrators to begin reconsidering this policy during the 1880s and 1890s. Like other elite private universities during this period, the University of Pennsylvania attempted to recruit students from outside of Philadelphia and its suburbs as part of a larger effort to make the University a nationally-respected institution.[18] To this end, the University added eight new academic programs and expanded its course offerings in order to attract students from around the country. Convincing students from "away" to attend the University of Pennsylvania also meant assuring parents who lived long distances from campus that their sons were adequately protected from harm. According to Provost Harrison, the time spent in college was "a formative epoch" in a young man's life, and it was the duty of a university to provide "all that life at that age requires (physically, socially, intellectually, morally and religiously)." The University could not meet students' needs completely, Harrison argued, "until every student who comes to Philadelphia for his education can find a proper home which is in and of the university," and where "there is careful provision for all the twenty-four hours of the students' daily life."[19]

Changes in campus life also prompted greater attention to the living conditions of male students. In the years following the Civil War, the laissez-faire attitude of the University toward college men's lives outside the classroom led male students to create fraternities, private boarding houses, dining clubs, and other surrogate institutions to make up for the fact that the University did not provide housing or dining services for students. Alumni and students also

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[17]Meyerson and Winegrad, *Gladly Learn and Gladly Teach*, pp. 204, 213.
[18]Ibid., p. 224.
[19]University of Pennsylvania, *The Dormitory System*, pp. 6–7. For more on the history of the dormitory system at Penn, see Elizabeth A. Linck, "The Quadrangle," in *A Pennsylvania Album*, pp. 39–42.

started football, crew, and other teams and in 1873 formed an Athletic Association to organize and raise funds for various athletic contests.[20] In addition, students engaged in more violent rituals and contests, most notably the annual Bowl and Push fights between the freshman and sophomore classes.[21]

These developments were alarming to many administrators and faculty for several reasons. First, the rise of extracurricular activities drew considerable time and energy away from academics. Some activities were also dangerous: it was not unusual for the University's annual reports to include a list of a dozen or more serious injuries from athletic competitions and fights throughout the year.[22] Finally, the proliferation of student-run fraternities and private boarding houses indicated that many students were not, in fact, living under the protection of families. During the early 1890s, administrators discovered that one thousand students, or half of the entire student body, lived near the University in boarding houses and fraternities, where they lacked any kind of supervision, parental or otherwise. Although the majority of students at this time came from wealthy families, a significant number of students had limited incomes and therefore lived in rather wretched conditions that posed considerable threats to their health.[23] This great disparity between wealthy and low-income students was especially disturbing because the University prided itself on its ability to attract a socio-economically diverse cross-section of students from city and suburb. Since its inception, the University had projected an image of inclusiveness that welcomed students from every quarter. Reality frequently fell short of this image, since the University's tuition was beyond the reach of many immigrants and most blacks in the city. Temple College of Philadelphia, founded in 1888, was the true "workingman's college" in the city. The University of Pennsylvania did become more socioeconomically diverse during the decades after the Civil War, but mainly because sons of Philadelphia's wealthiest families favored more prestigious institutions such as Harvard and Princeton, which also had the benefit of being located in more pristine, immigrant-free areas. By the turn of the century, University of Pennsylvania students from the elite neighborhood around Rittenhouse square were outnumbered almost four to one by those from

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[20]Cheyney, *History of the University of Pennsylvania*, pp. 312–316.
[21]Becker and Woodson, "Rites of Passage," pp. 31–37.
[22]See University of Pennsylvania, *President's Annual Reports*.
[23]Cheyney, *History of the University of Pennsylvania*, p. 340.

the less fashionable but still prosperous wards in North, Northwest, and West Philadelphia. In addition, a small but significant number of students, twelve percent, came from poorer Southern wards, Kensington, and the Northeast.[24] Therefore, there is some truth to the University of Pennsylvania's claim that it promoted a "democracy of the streetcar," since it was significantly more diverse than other elite colleges, especially the rural campuses at Princeton and Hanover. One report from the turn of the century contrasted the luxurious living conditions of "well set up and well-groomed young men" who resided in fraternities and plush apartments near the University, with "pale-faced, stoop-shouldered young men who snatch ravenously at a scrap of learning and hurry away with it to unknown parts of the city."[25]

Therefore, in order to preserve its self-image as a democratic institution, the University had to equalize student living conditions. Ironically, to solve this problem the administration looked to the residential colleges of Oxford and Cambridge for inspiration. These institutions had long traditions of using architecture to shape the lives of their students, but they also had reputations for social elitism. Alex Duke has identified this as a common phenomenon at many of the elite men's colleges during the late nineteenth century and a reflection of a revival of the ancient idea that the college should not only cultivate the student's intellectual life, but his physical and moral life as well. Duke argues that "importing Oxbridge" also represented a reaction against the transformation of the United States into an ethnically diverse, corporate, industrial state. The Gothic architecture favored by proponents of the "Oxbridge" movement in American colleges and universities symbolized a larger movement to reassert Anglo-Saxon racial superiority "in a world where deference to old values appeared to be slipping away."[26] Trustees at the University of Pennsylvania were similarly concerned that their school was "marked by a singular deficiency in its instrumentalities for promoting religious and moral life." In 1893, the trustees approved a

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[24]E. Digby Baltzell, *Philadelphia Gentlemen: The Making of a National Upper Class* (New Brunswick, NJ: Transaction Publishers, 1989); Richard Angelo, "The Students at the University of Pennsylvania and the Temple College of Philadelphia, 1873–1906: Some Notes on Schooling, Class and Social Mobility in the Late Nineteenth Century," *History of Education Quarterly* 19/2 (Summer 1979): 179–205..

[25]Edwin E. Slosson, *Great American Universities* (New York: Macmillan, 1910), p. 362.

[26]Alex Duke, *Importing Oxbridge: English Residential Colleges and American Universities* (New Haven, CT: Yale University Press, 1996), pp. 50–51.

plan to construct Houston Hall, the first student union in the country, which was modeled after the gothic architecture of Oxford and Cambridge.[27] At the same time, the trustees announced plans for student dormitories, construction of which began in 1895. [**Figure 1**] Unlike other elite universities at this time, the University of Pennsylvania did not have the financial resources to build dormitories for all of its students, and therefore could not fulfill its hope of providing all students with affordable housing.[28]

Instead, the University used physical education and hygiene instruction as the primary methods of molding student life. In 1883, the Board of Trustees approved a resolution to establish a Department of Physical Culture, with Dr. J. William White from the Medical School faculty as Director. Two years later, a classroom was converted into a gymnasium modeled after the work of Harvard Physical Education director Dudley Allen Sargent, who believed that gymnasium exercises were more conducive to health than intercollegiate athletics. In 1890, the University appointed Dr. Seneca Egbert as Professor of Hygiene. Egbert's main duty was to teach hygiene classes, none of which were mandatory. Egbert also was responsible for inspecting the sanitary condition of University buildings, performing physical examinations on students who used the gymnasium, and ensuring that student athletes were physically fit for competition. Egbert did not provide medical care for the students, since the administration wanted to avoid charges of unfair competition from local physicians. Instead of providing a physician appointed by the university, the administration expected that students would use one of the many physicians available in Philadelphia.[29]

Originally, students did not have to take physical education classes, and were more inclined to engage in athletics and interclass fights than visit the gymnasium. Indeed, the construction of dormitories and Houston Hall actually fostered rowdy behavior among male students, since it gave them a more centralized area in which to live and socialize. A desire to redirect students' passion for games, fights, and class rivalries into more acceptable channels led the University to greatly expand its athletic facilities. During the early 1900s, the university built Franklin Field, completed construction of Weightman gymnasium, and appointed Dr. Robert Tait

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[27]Cheyney, *History of the University of Pennsylvania*, pp. 340–44.
[28]Duke, *Importing Oxbridge*, p. 52.
[29]Folder on Seneca Egbert, University of Pennsylvania Archives.

Figure 1. "Oxbridge" style of architecture at the University of Pennsylvania
Courtesy of the Archives of the University of Pennsylvania

McKenzie to supervise the physical education department. Unlike those of previous physical education directors, McKenzie's position was full-time and he received full faculty status. The trustees also approved the most stringent physical education requirement of any university in the country at that time. All students received a physi-

Figure 2. R. Tait McKenzie examining a college student circa 1905
Courtesy of the Archives of the University of Pennsylvania

cal examination upon entrance to the University, a practice that was common at many institutions of higher education by the turn of the century. [**Figure 2**] Students also had to take a minimum of two physical education classes per week for all four years at the University, whereas most colleges only required a year of physical education or had no such requirements at all. Students at the University of Pennsylvania received the same academic credit for physical education as for other subjects, but also received the same penalties as for other required courses. They could not graduate unless they fulfilled the physical education requirement, and they were not allowed to sit for final examinations if they had skipped physical education classes during the preceding semester.[30] [**Figures 3,4, and 5**]

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[30]R. Tait McKenzie, "Physical Education at the University of Pennsylvania—from 1904 to 1931—and the Gates Plan," *Research Quarterly* 3 (1932), pp. 19–20.

Figure 3. Mandatory physical education for college students at the University of Pennsylvania
Courtesy of the Archives of the University of Pennsylvania

Like the architectural style of the University, this emphasis on physical education was closely tied with a desire to preserve Anglo-Saxon racial superiority. It was fueled by anxieties about "race suicide," the idea that the white, native-born, upper classes were dying out because of ill-health, poor physical fitness, and lower birth rates than immigrants and African-Americans. As numerous historians have observed, many of these fears about race suicide focused on the health of college women, who married less often and if married had fewer children than women who did not attend college.[31] Concerns about race suicide and racial degeneration were just as strong in discussions about the health of college men. Larry Owens has demonstrated how the development of physical education at colleges and universities was a variation on what the historian Robert

[31]For more on health services at the women's colleges, see Horowitz, *Alma Mater*, pp. 12–14, 32; and Sheila Rothman, *Woman's Proper Place: A History of Changing Practices, 1870 to the Present* (New York: Basic Books, 1978), pp. 26–42.

Figure 4. Mandatory physical education for college students at the University of Pennsylvania
Courtesy of the Archives of the University of Pennsylvania

Wiebe has described as the nineteenth century "search for order." Owens argues that physical education was a strategy "adopted by Northern elites to help them maintain status, preserve culture, and reconcile the centrifugal forces that threatened the nation" following the Civil War.[32] In a recent article on the history of posture, David Yosifon and Peter Stearns suggest a similar hypothesis. They demonstrate how in the nineteenth century, proper posture "constituted a demonstration of good character," a "mastery over physical weakness," and "growing attention to hygiene and to sexual restraint," all of which were characteristics associated with the emerging middle class. Yosifon and Stearns demonstrate that there was a racial component to this preoccupation with posture as well:

[32]Robert Wiebe, *The Search for Order, 1877–1920* (New York: Hill and Wang, 1967); Larry Owens, "Pure and Sound Government: Laboratories, Playing Fields, and Gymnasia in the Nineteenth-Century Search for Order," *Isis* 76 (1985), p. 186.

Figure 5. Mandatory physical education for college students at the University of Pennsylvania
Courtesy of the Archives of the University of Pennsylvania

bad posture was associated with lower species and the "less civilized races of men." Therefore, the "posture wars" at elite men's and women's colleges represented a "distinctive kind of body control for the middle and upper-classes," as well as those who aspired to such status.[33]

Tait McKenzie's work at the University of Pennsylvania was at the forefront of this effort to find a link between student bodies and human evolution. During the 1890s, McKenzie collaborated with Sargent to create statues of "typical" American college men and women from measurements collected during mandatory physical examinations at elite men's and women's colleges. [**Figure 6**] Prominently displayed in the Anthropology Building at the Chicago

[33]David Yosifon and Peter N. Stearns, "The Rise and Fall of American Posture," *American Historical Review* 103 (1998), pp. 1057–1095.

Figure 6. R. Tait McKenzie evaluating the posture of a college student circa 1905
Courtesy of the Archives of the University of Pennsylvania

World's Columbian Exposition in 1893, these statues were used to illustrate the racial superiority of the native-born, white upper classes.[34]

At the same time, McKenzie warned that modern civilization was having a negative impact on the physiques of American youth. McKenzie observed that while the "American youth does not show up so badly," he was considerably thinner and less muscled than the broad-shouldered, heavy-set "Herculean type" of ancient Greece. Although McKenzie acknowledged that a certain degree of slenderness and delicacy of figure was the sign of a "refined and highly civilized race," he also warned that too much "softness of form" in men was a sign of racial degeneracy.[35] According to McKenzie, signs of impending race suicide were especially apparent in city dwellers like those who attended the University of Pennsylvania: "The segregation of masses of people limits the amount of space and air for each," McKenzie wrote, "and the necessity of further economizing energy by the use of machinery reduces muscular activity to a minimum."[36] Although the physical problems caused by urban living could be detected in all social classes, McKenzie claimed they were most apparent in "the most 'civilized' part of a civilized community, so that there has arisen a whole series of defects and diseases due to this suppression of the natural muscular activity, or its concentration on a few movements." Men who attended college were especially at risk for these "defects of civilization," since "the struggle for a college education is so intense that the exhausting work of preparation is frequently stamped on the physique of the matriculant."[37]

McKenzie believed that the best way to counteract this trend was for men's colleges and universities to support physical education programs, not just intercollegiate athletics. Like many physi-

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[34]Robert W. Rydell, *All the World's a Fair: Visions of Empire at American International Expositions, 1876–1916* (Chicago: University of Chicago Press, 1984), p. 57; Jacqueline Urla and Alan C. Swedlund, "The Anthropometry of Barbie: Unsettling Ideals of the Feminine Body in Popular Culture," in Jennifer Terry and Jacqueline Urla, eds., *Deviant Bodies* (Bloomington: Indiana University Press, 1995), pp. 288–289.

[35]McKenzie, "The Search for Physical Perfection." In *University Lectures Delivered by Members of the Faculty in the Free Public Lecture Course, 1914–1915* (Philadelphia: University of Pennsylvania, April 1915), pp. 409–419.

[36]R. Tait McKenzie, *Exercise in Education & Medicine* (Philadelphia: W.B. Saunders Co., 1909), p. 132.

[37]Ibid., p. 174.

cal education directors and college administrators at this time, McKenzie objected to what he considered to be the rampant dishonesty, violence, and commercialism of college sports. To be sure, professional self-interest did play some role in McKenzie's outcry against athletics, since these programs were controlled by alumni and students and were therefore outside the control of the physical education department and other administrative entities at the University of Pennsylvania. Yet McKenzie also opposed the elitism inherent in most college athletics programs, and argued that rather than funding athletic programs that only benefited a small number of students, colleges should support a program that benefited all students equally. [**Figure 7**] Although McKenzie acknowledged that physical education departments should make provisions for the "supernormal" athletes, as well as for "subnormal" students with physical defects, the main goal of such programs should be to serve the "average man" who "has neither the desire nor the ability to represent his university upon the track or field, but who wishes to be at his highest point of physical vigor throughout his college course." It was only by supporting "exercise for all" that colleges and universities could cultivate the qualities by which "civilized man has asserted and maintained his superiority over more primitive races."[38]

Students' reactions to physical education requirements are difficult to trace, since students seldom wrote about their experiences in the gymnasium. According to McKenzie, although some students welcomed the opportunity to improve their bodies for academic credit, others objected to the intrusion on their time and staged a protest at which they burned McKenzie in effigy. The faculty also resisted the physical education requirement. According to McKenzie, many faculty viewed physical education "as a sort of bastard child left on their doorstep, diverting the time and nourishment destined only for legitimately begotten members of the academic faculty." McKenzie also continually clashed with the Athletic Association and the coaches over whether athletes could be excused from the physical education requirement, and whether McKenzie should have final say over who was fit for competition.[39]

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[38]Ibid., pp. 181–182.

[39]McKenzie, "Physical Education at the University of Pennsylvania," pp. 20–21.

Figure 7. R. Tait McKenzie at the gymnastics club, circa 1905
Courtesy of the Archives of the University of Pennsylvania

Initially, the administration believed that the physical education program was the best solution to the problem of protecting student health in a large city where other health parameters were difficult to control. The University could not entirely eliminate the temptations of the city nor could it protect students by requiring them to live on campus, since dormitory space was inadequate. The best administrators could do was use mandatory physical examinations to detect disease and disability, and then attempt to use physical education as a means of diverting students from less wholesome pursuits. However, administrators also realized that allowing students to use their excess energy in athletic contests was a way to manage the turbulent behavior of college men. In 1916, following the death of freshmen William Lifson, students agreed to end the annual Bowl Fight and similar customs in exchange for administrators' support for interclass athletic contests that would be supervised by faculty. Although riots and fights did erupt periodically, the growth of intramural and intercollegiate athletics eventually led to a steady decline in unruly behavior.[40]

During the 1920s, it became increasingly apparent that mandatory physical education was not enough to protect the health of college men. Statistics collected during the First World War demonstrated that untreated diseases were as much to blame for these problems as was poor physical conditioning. Most alarming were reports about the incidence of venereal disease. The infection rate among college men (estimated at 1–2 per thousand) was low compared to the male population as a whole (estimated as between 5–18%), but the fact that any college students were found to have these diseases was shocking.[41]

In response to reports about venereal disease, the Sixty-fifth Congress created the International Social Hygiene Board (ISHB), which included a $300,000 per year allotment for establishing departments of hygiene at universities, colleges, and normal schools. Although funds from the International Board were intended mainly for educational measures targeting venereal disease, these resources

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[40]Becker and Woodson, "Rites of Passage," pp. 35–36.

[41]T.A. Storey, "The Work of the United States Interdepartmental Social Hygiene Board," *Social Hygiene* 5 (1919), pp. 441–460; Storey, "A Summary of the Work of the United States Interdepartmental Social Hygiene Board, 1919–20," *Social Hygiene* 7 (1921), pp. 59–76.

also allowed the colleges and universities to improve health services more generally.[42]

At first, the University of Pennsylvania used ISHB money to expand course offerings in hygiene to include sex hygiene, and to increase funding for physical education programs that administrators hoped would distract male undergraduates from "immoral" activities. However, student demands gradually led to changes in the emphasis of the university's policy on student health. Students from less privileged circumstances complained about the high costs of medical care. They also worried that they were being cheated by local physicians. Students believed that the best way to avoid these problems was for the university to provide health care to all students free of charge. Student leaders won the support of Seneca Egbert and both began campaigning for a college health center in the early 1920s. In 1922, the University acknowledged the needs of lower-income students by appointing a medical advisor for students who did not have a family physician or could not afford a physician in Philadelphia. They set aside an inpatient ward in the University hospital that all students could use free of charge.[43] The University also instituted more oversight over off-campus living conditions. All housing that was rented to students first had to pass inspection by a sanitary engineer appointed by the University.[44]

Student protests also served to weaken the physical education requirements at the University. Ongoing clashes between students and McKenzie over the proper balance between physical education and athletics eventually made it difficult to use physical education as the sole means of preserving student health and virtue. McKenzie claimed that the growth of intercollegiate athletics had drawn money and support away from physical education, thereby undermining McKenzie's goal of "exercise for all." However, many students found McKenzie's exercise program tedious, and frequently attempted to get around the physical education by joining athletic teams or by obtaining medical excuses from local physicians. By

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[42]R. Boynton, "Historical Development of College Health Services," *Student Medicine* 10 (1962), p. 296.

[43]Obituary for Seneca Egbert, from *Philadelphia Evening Bulletin*, 6 December 1939; *University of Pennsylvania Catalog*, 1922–23.

[44]Seneca Egbert, Discussion of Presidential Address, *Proceedings of the Sixth Annual Meeting of the American Student Health Association*, (1925): 123.

1928, McKenzie's situation at the University became so intolerable that he resigned.[45]

Soon after, President Thomas S. Gates appointed a committee to "survey and report upon the field of Student Health, Physical Education of Students and Student Athletics," in order to bring about "thorough-going coordination of effort in, and a more centralized administration of, the activities covering the physical life of the students of the University." The result of this investigation was the Gates Plan, which proposed to unite physical education, athletics, and a new division of student health under one Dean of Physical Education, who would report directly to the President. The new student health center provided physical examinations for athletes and incoming students, offered medical care to both male and female students at the university free of charge, isolated students with infectious diseases, and advised students and the administration on matters of personal hygiene and sanitation.[46] Although McKenzie felt that the new plan still gave too much control over athletics to alumni and students, the administration persuaded him to accept a temporary position as Research Professor of Physical Education in order to help advise the university on implementation of the Gates Plan.[47]

For further advice on student health, the University turned to the College of Physicians of Philadelphia's Section on Industrial Medicine and Public Health. This Section focused primarily on the health problems of the city's industrial workers, but members occasionally presented papers on school and college hygiene, particularly when the goals of school health intersected with the more general public health concerns of the Section. Egbert served as chair of the Section in the late 1920s, and several other University of Pennsylvania faculty were members as well. As a result, the University's work in college health was compatible with the activities of the Section. The Section's interest in college student health evolved partly out of its work in tuberculosis prevention. As Jennifer Gunn demonstrates in a recent article on the history of this Section, tuberculosis was an important stimulus for this organization's work:

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[45]McKenzie, "Physical Education at the University of Pennsylvania," pp. 21–22.
[46]E.L. Mercer, "The Gates' Plan," *Research Quarterly* 3 (1932), pp. 27–32.
[47]Jean McGill, *The Joy of Effort: A Biography of R. Tait McKenzie* (Oshawa, ON: The Alger Press, Ltd., 1980), p. 160.

several officers were founding members of the National Tuberculosis Association in 1904 and published extensively on tuberculosis prevention and treatment. Since the incidence of tuberculosis was especially high among the urban poor, the Section focused on detecting and preventing the disease in industrial workers and their children.[48] Tuberculosis prevention programs for school children eventually extended to college and university students. In a paper read before the annual meeting of the National Tuberculosis Association in 1929, Eugene Lindsay Opie of the Henry Phipps Institute of the University of Pennsylvania recommended that tuberculosis prevention should not end with school children, but should include all schools for the training of teachers, as well as all colleges and universities.[49]

Another area of common interest between the University of Pennsylvania's health service and the Section on Industrial Medicine and Public Health was the issue of contract practice, especially when companies hired physicians to care for their employees on a prepaid basis. According to Gunn, the American Medical Association was a fierce opponent of this form of practice, and "harshly criticized the loss of both company doctors' professional autonomy and workers' right to choose their own physician under these circumstances." Gunn observes that company physicians who belonged to or spoke before the Section "took great pains to assure their colleagues of their desire to avoid competition with local physicians."[50]

College physicians found themselves in a similar predicament. In an article presented at an annual meeting of the American Student Health Association, Seneca Egbert stated that he and his col-

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[48]Jennifer L. Gunn, "Factory Work for Doctors: The Early Years of the Section on Industrial Medicine and Public Health of the College of Physicians of Philadelphia," *Transactions and Studies of the College of Physicians of Philadelphia* 17 (1995), p. 67.

[49]Eugene L. Opie, "Why it is the Function of the National Tuberculosis Association to Continue its Child Health Education Program," typescript of talk presented at the Annual Meeting of the National Tuberculosis Association, 1929, Opie Papers, American Philosophical Society, Philadelphia, PA. For more on the history of tuberculosis prevention in colleges and universities, see Heather Munro Prescott, "The White Plague Goes to College: The National Tuberculosis Association's Campaign Against Tuberculosis in College and University Students, 1930–1960," paper presented at the Annual Meeting of the American Association for the History of Medicine, May 10, 1998.

[50]Gunn, "Factory Work for Doctors," pp. 72, 82.

leagues at other colleges and universities were accused of "stealing" patients from local practitioners. Egbert used several points to justify the existence of college health services. First, Egbert argued that working for a college health service was no different than working for Metropolitan Life or U.S. Steel or other corporations, which are using medical advisors "to keep their working forces in a state of high physical efficiency and the plants in which they work in a sanitary and healthful condition." Egbert drew on new ideas about late adolescence as a life stage to further underpin his argument, claiming that college students, particularly freshmen, were too immature to make major decisions regarding their health and welfare on their own. According to Egbert, the University had a responsibility *in loco parentis* because most students leaving home for the first time had little experience finding a doctor by themselves and, when ill, tended to avoid seeking medical advice because they feared the physician's verdict or the expense of health care. "For these reasons, if for no others," Egbert claimed, "it would be the positive and moral duty of the educational authorities, to whom the parents have entrusted the physical as well as mental care of their immature sons and daughters, to provide as promptly and conveniently as possible competent medical care and advice for sick students." Finally, Egbert argued that a college health center could actually enhance the market for medical services of all kinds by educating students about the importance of prevention, early detection, and treatment of disease. Since college students would go on to be leaders in their communities, Egbert observed, they would in turn persuade their neighbors of the importance of timely medical care.[51]

Local physicians' reactions to Egbert's argument are unknown, but it appears that any opposition to the establishment of the health center eventually faded. According to Gunn, "forms of contract practice were widespread and obviously not as distasteful to physicians in Philadelphia" as to the AMA, largely because doctors in this city could make a fine living by working for the various factories and companies in the city. Therefore, contract practice did not

[51]Seneca Egbert, "Medical Service in Colleges and Universities," *Proceedings of the American Student Health Association* 8 (1927), pp. 35–38. This problem was not unique to Philadelphia. In fact, the American Medical Association became so concerned about competition between private practitioners and college health centers that they sponsored a study of college health centers during the 1930s. See American Medical Association, Bureau of Medical Economics, *University and College Health Centers* (American Medical Association, 1936).

encounter as much opposition in Philadelphia as did those in other cities.[52] The health service at the University of Pennsylvania grew dramatically, even in the midst of the Great Depression. By the early 1930s, the University health service employed 15 physicians and provided a wide range of medical services to students free of charge.[53]

At the same time, the University gradually expanded facilities for female students. Believing that the presence of women on campus "civilized" young men, the trustees in 1924 approved construction of the first women's dormitory, Sergeant Hall, to accommodate the small numbers of female students admitted to the University's School of Education and selected graduate programs. In 1933, the University created an undergraduate College for Women, which increased the numbers of women but still did not allow them equal access. Furthermore, men and women were kept strictly segregated both inside and outside the classroom. Women students not only resided in separate dormitories, but also attended separate classes, had a separate student center, Bennett Hall, and were forced to create separate organizations and traditions since they were not welcome in those run by male students. Women also endured a more stringent set of parietal rules, which were outlined explicitly in a handbook for female students popularly known as the "White Bible." Not only were women forbidden to have members of the opposite sex in their rooms, as were male students, they also had to observe curfews and elaborate sign-in procedures. Women were also required to live in university-sponsored housing and forbidden from wearing slacks on campus. This rigid supervision of women students was created partly to protect female virtue. However, it is also clear that the rigid segregation of women on campus was used to preserve the University's masculine culture.[54]

Despite this increased attention to student health and safety, the University of Pennsylvania's popularity among Philadelphia elites steadily declined during the 1930s. Although a few wealthy families resided there, West Philadelphia was never a very fashionable neighborhood, and became even less so during the Depression. As one alumnus from this period recalled, the University of Pennsylvania, in the early 1930s, "was a second-rate school in a slum city . . .

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[52]Gunn, "Factory Work for Doctors," p. 79.
[53]*University of Pennsylvania Undergraduate Catalogue*, 1931–32.
[54]Meyerson and Winegrad, *Gladly Learn and Gladly Teach*, pp. 214–15.

Philadelphia was slovenly and pathetic." The neighborhood surrounding the University was especially vile, "cut through and polluted by thoroughfares, trolley lines, railroad tracks and factories," and choked by an "industrial stench that hung over the campus." Class and ethnic prejudice exacerbated these sentiments. Alumni objected to the "democratic tone" of the University, which eschewed the quota on Jewish students adopted by other Ivy League institutions, and which even allowed a handful of blacks to attend. Students from Philadelphia's elite families and wealthy students from outside the city were also contemptuous of lower-class "commuters" and regarded those who did not fit in their rarefied social circle as "untouchables."[55] The poor image of the University of Pennsylvania and its surroundings caused many wealthy Philadelphians to send their children to small country colleges, which were "well away from the interruptions, confusions, and social admixtures of city life," and which provided "more healthy and attractive surroundings" than did West Philadelphia.[56]

This preference for rural colleges persisted despite mounting evidence that the countryside was not necessarily healthier than the city. During the 1920s and 1930s, college physicians did studies of rural and urban campuses as well as comparisons of students at the same university who were from rural and urban parts of the country. Using statistics gathered from mandatory physical examinations at colleges and universities, these studies attempted to undermine the agrarian myth once and for all. Many of these studies focused on the Southeastern states, which were considered especially backward in public health reforms. As Alan Marcus observes in his history of hookworm and southern distinctiveness, white southern college students who flocked to state universities, medical schools, and tuition-free agricultural colleges "constituted one of the first populations examined for hookworm after 1900 and demonstrated a high incidence of the disease." The rate of tuberculosis was also higher in southern college students, as were other diseases associated with poor sanitation and inadequate access to health care. Although black students also suffered from poor health,

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[55]Alfred Bester, "The University of Pennsylvania," *Holiday* 32 (1962), p. 88. David O. Levine describes the discriminatory policies adopted at other elite institutions in the interwar period in *The American College and the Culture of Aspiration, 1915–1940* (Ithaca, NY: Cornell University Press, 1986).

[56]Cheyney, *History of the University of Pennsylvania*, pp. 395–396.

many preventive efforts in the South focused on white students because of fears about racial degeneration. According to Marcus, efforts to improve the health of white southerners were part of a larger eugenic movement in the South, which attempted to revitalize the white race and ensure white supremacy in this region.[57] College physicians alleged that frequent inbreeding had led to a high incidence of hereditary disorders and congenital disorders in white students from the rural South. Like other medical professionals who worked on what were considered to be distinctively southern health problems, college physicians hoped that by eliminating the causes of ill-health in white southerners, they could contribute to the regeneration of white racial stock.[58]

Notions of "rural backwardness" were not limited to the South: similar images of rural inhabitants can be found in studies of students from rural New England, upstate New York, and the Mid-West. These studies found that the "natural advantages which the rural districts possess in favor of healthful existence are more than offset by the better health protection afforded by the city dweller." Most common were what researchers called "diseases of defective civilization," that is, typhoid fever, dysentery, hookworm, and other diseases that could be easily prevented through modern sanitary reforms. Although these problems were most prevalent in the South, researchers also found that small college towns in the Northeast lagged behind larger cities in public health measures.[59] These studies, therefore, attempted to overturn older notions of the city. Rather than being a center of disease and "defective civilization," the city became an exemplar of the accomplishments of modern sci-

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[57]Alan I. Marcus, "The South's Native Foreigners: Hookworm as a Factor in Southern Distinctiveness," in *Disease and Distinctiveness in the American South*, ed. Todd L. Savitt and James Harvey Young (Knoxville: University of Tennessee Press, 1988), p. 83.

[58]W.P. Shepard and H.S. Diehl, "Rural and Urban Health: A Comparison of Physical Defects in University Students from Rural and Urban Districts," *JAMA* 83 (1924), p. 1117.

[59]Shepard and Diehl, "Rural and Urban Health," pp. 1117–23; Shepard and Diehl, "Rural and Urban Health: II: A Comparison of Past Diseases in University Students from Rural and Urban Districts," *Journal of Industrial Hygiene* 7 (1925), pp. 481–90; D.F. Smiley, "Health Inventory of Urban and Rural Students," *The Nation's Health* 8 (1926), pp. 21–22; and Leia Mas Hopper, "A Comparative Study of the Physical Measurements and Health Status of Rural and Urban Freshman College Women" (M.S. thesis, Oklahoma Agricultural and Mechanical College, 1943).

entific medicine and public health reform in comparison with the ignorance and backwardness of the countryside.

Nevertheless, the agrarian myth continued to be a powerful one, so much so that officials at the University of Pennsylvania considered moving the undergraduate college to more bucolic surroundings near Valley Forge Park. Throughout the 1930s and 1940s, alumni and administrators debated the pros and cons of this "Valley Forge Plan." Those who favored the idea believed it would help restore to the undergraduate college a social cohesiveness that had been lost with the growth of the University. More importantly, the move to rural Pennsylvania would provide students with healthful surroundings free from the "dirt and grime of the city," and wide open spaces conducive to wholesome recreation and reflective study. Opponents criticized the plan's elitism, which they found to be especially egregious in the midst of an economic disaster that had hit the industrial workers of the city particularly hard. This criticism, combined with the upheavals caused by the Second World War, led most administrators to abandon this strategy by the late 1940s.[60]

Although the Valley Forge plan occasionally resurfaced in the 1940s and 1950s, during the postwar period the University focused primarily on improving the physical environment of the West Philadelphia campus rather than abandoning it for more pristine surroundings. Like many postwar efforts at urban renewal, the University of Pennsylvania's expansion created a relationship with its neighbors that was strained at best. In 1948, the University adopted the Martin Plan. Developed by a group of Trustees from Philadelphia's elite families, the plan proposed a vast expansion of the University campus to accommodate the increase in students created by the G.I. Bill. The expansion would be "accompanied by the removal of blight from the adjacent areas, and the redevelopment of those areas in a manner benefiting the institutions they border."[61] Eliminating "blight" not only meant removing run-down buildings and factories, but also relocating the scores of black workers who had migrated to West Philadelphia during the wartime boom in manufacturing. During the 1950s, the University vacillated between helping the black community and turning its back on them. In 1952, the

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[60]Meyerson and Winegrad, *Gladly Learn and Gladly Teach*, pp. 221–223.

[61]James A. Bessin, "The Modern Urban University," in *A Pennsylvania Album*, p. 53.

Trustees created a Community Relations Committee to provide programs for residents of West Philadelphia.[62] At the same time, the physical appearance of the campus became more insular. New high-rise buildings built around the perimeter of the campus, with entrances opening toward the college green, provided a barrier between the noise and dirt of the surrounding city and the pastoral quiet of the central campus. During the early 1960s, Penn trustees accelerated this turn inward by adopting the Integrated Development Plan, which called for an expansion of the campus from 140 to 250 acres, much of which would be open space intended to replicate the serene atmosphere of rural and suburban colleges. Included in this project was a new "fortress-like" dormitory for female students and, for male students, a House Plan that would abolish fraternities and dormitories and establish a more intimate residential college system similar to those at other Ivy League institutions. Throughout the 1950s and early 1960s, therefore, proposals to improve the campus surroundings more often entailed shutting out the surrounding community rather than helping to alleviate the social problems of the city's poor.[63]

Another sign the of University's insularity during this period was its continued preoccupation with the condition of student bodies, especially male student bodies. This phenomenon was not unique to the University of Pennsylvania. In his article on the history of the body in the postwar United States, Robert Griswold shows how the fitness crusades of the Eisenhower and Kennedy administrations "suggest that the body of youth—especially male youth—became the repository for a host of cultural anxieties about Cold War America and men's place within it." Although fitness campaigns included both boys and girls, the desire to match the Soviet's masculine character and military strength meant that much of the fitness movement focused on improving male bodies.[64] Administrators at the University of Pennsylvania were equally concerned about the relationship between fitness and masculinity. Unfortunately, the post-World War II years were particularly troublesome

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[62]Ibid., p. 55.

[63]David William Zang, "Winning and Losing in the Vietnam Era: Redefining Athletic Excellence at the University of Pennsylvania" (Ph.D. Diss., University of Maryland, 1986), pp. 38–40.

[64]Robert L. Griswold, "The 'Flabby American,' the Body, and the Cold War," in *A Shared Experience: Men, Women, and the History of Gender*, eds. Laura McCall and Donald Yacovone (New York: New York University Press, 1998), pp. 324–25.

for those who hoped to use sports to preserve masculinity. During the 1950s, the University eliminated the major in physical education in response to faculty complaints about the field's lack of intellectual rigor, thereby weakening an already troubled department. Moreover, the University's athletic record, never good to begin with, became even worse during the postwar period, even after the school left the Big Ten and joined the Ivy League in 1954. To quote one athletic director from this period, the University of Pennsylvania's athletic contests consisted of one "tortuous castration" after another at the hands of its Ivy League opponents.[65] In order to improve the school's performance in sports, and thereby recover its manly image, alumni and administrators poured millions into boosting the University's athletic facilities. By the early 1970s, even the University of Pennsylvania's worst rivals admitted that it had the finest athletic facilities in the Ivy League. In order to make sure these new facilities benefited the largest number of students possible, the University also increased funding for recreational and intramural sports.[66]

Events during the late 1960s eventually forced the University of Pennsylvania to begin addressing inequalities both within and outside its boundaries. The first complaints came from female students, who began protesting against parietal regulations in the early 1960s. Despite growing concerns about the safety of the surrounding neighborhood, women petitioned for and received the same privileges as men, including freedom from parietal hours and the right to live in off-campus apartments. In 1969, the University relinquished its control over student fitness by abolishing the physical education requirement in order to devote more funds and energy toward intercollegiate athletics and intramural sports.[67]

At the same time, riots in West and North Philadelphia, and demonstrations by University of Pennsylvania students, forced the university to consider more seriously the concerns of city residents. In 1969, President Harnwell began a study of communication patterns between University and city residents, and the following year established the office of Assistant to the President for External Affairs "to review, revise, and plan the university's relationship to the

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[65]*Daily Pennsylvanian*, 2/6/1970, quoted in Zang, "Winning and Losing in the Vietnam Era," p. 58.
[66]Zang, "Winning and Losing in the Vietnam Era," p. 67.
[67]Ibid., pp. 204–206.

community." Outreach efforts remained disorganized and underfunded throughout the 1970s, however. During the early 1980s, the University started "Buy West Philadelphia" and "Hire West Philadelphia" programs to alleviate unemployment and encourage business growth in the surrounding community. The University also created the West Philadelphia Improvement Corps, which was aimed at transforming high-risk schools and their communities. Although these programs could not eliminate the vast social problems of West Philadelphia, they nevertheless represented a substantial shift in attitude from earlier policies which had been aimed at sheltering students from urban decay.[68]

If one looks at present-day articles about the University of Pennsylvania and other urban universities, one continues to see discussions about the relationship between the student body and the city. Like other urban campuses, the University continues to have "image problems" when it comes to student health and safety. During a recent research trip to Philadelphia, I noticed that the police presence in University City increased considerably during Freshman orientation week, as did the size of the grounds crew picking up trash and planting flowers. Cynics might argue that these efforts to improve the beauty and safety of the neighborhood are self-serving attempts to reassure anxious parents and students and do little to improve the daily lives of the average West Philadelphian. It is true that relationships between University and community continue to be strained, but there also appears to be a sincere recognition that the health of the student body is intimately connected with that of the city. Although enthusiasm and financial support for urban outreach programs waned during the 1970s, the past two decades saw a resurgence of the University's commitment to the surrounding community.[69]

To be sure, rural campuses pose their own set of risks to the student body. Anyone who has visited Hanover or Storrs knows that heavy drinking at parties at fraternities and off-campus houses are the main source of student entertainment in areas where alternative amusements are few. In fact, full-time residents of small college towns complain about the yearly "invasion" of students, almost as if the student body itself was some sort of infectious agent. If one looks at the reports of student riots at the University of Connecticut

[68]Ibid., p. 41.
[69]Bessin, "The Modern Urban University," pp. 57–58.

in 1998, one sees imagery that depicts the student body, rather than the environment, as the major threat to public health and safety. Although this problem is not unique to rural campuses—cities also complain about damage to property caused by drunken and disorderly students—it is more blatant in towns where the college overwhelms the surrounding community. Yet the beautiful surroundings and isolation from the perceived dangers of the city still figure prominently in the promotional materials for these institutions, suggesting that the "agrarian myth" continues to be a persuasive metaphor for students and parents alike.

The Campaign for Reform: Medical Education and Professional Improvement in Antebellum America

Simon Baatz

Introduction

The reform of medical education in the United States during the nineteenth century is customarily associated with events occurring well after the establishment of the American Medical Association (AMA) in 1847. According to one account, serious reforms in the American medical curriculum began only during the 1870s after Charles Eliot, president of Harvard, introduced a three-year program, a graded curriculum, and laboratory teaching at the University's medical school. The introduction of such reform measures is understood as contingent on the transfer of the German research ideal to the American university.[1] A detailed examination of developments at the University of Pennsylvania, however, reveals that, as early as the 1840s, the medical faculty at Penn attempted to introduce laboratory training and to extend the term of instruction. Reform initiatives, in this case, did not depend on the presence of a medical elite educated in Germany.[2]

The fundamental change undergirding the reform initiatives in American medical education in the three decades before the establishment of the AMA had less to do with the self-conscious efforts of medical professors to upgrade the curriculum and more to do

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[1]Kenneth M. Ludmerer, "Reform at Harvard Medical School," *Bulletin of the History of Medicine* 55 (1981), pp. 343–370; Kenneth M. Ludmerer, *Learning to Heal: The Development of American Medical Education* (New York: Basic Books, 1985), pp. 29–63.

[2]Thomas S. Huddle, "Competition and Reform at the Medical Department of the University of Pennsylvania, 1847–1877," *Journal of the History of Medicine* 51 (1990), pp. 251–292.

with the nature of the student clientele attending American medical schools. During the 1820s and 1830s, a significant number of students looked less to attainment of a formal credential than to the acquisition of a range and variety of skills and experiences that together constituted professional improvement.[3] It mattered greatly to these students that their education was perceived to be the best; thus, study at superior medical institutions, the availability of clinical resources, access to an anatomical museum, and an acquaintance with respected and reputable professors—were eagerly sought after by hundreds of American medical students. Within the United States the leading medical schools, most notably the University of Pennsylvania, Jefferson Medical College, and the College of Physicians and Surgeons, catered to this desire for professional improvement by continually raising standards and improving resources. Other medical schools, generally those in rural districts, catered to a different student audience—one that was usually looking for only the modicum of training that would enable a physician to set up practice with some degree of credibility. For these medical students, professional improvement was a luxury that they might desire but could ill afford to indulge, generally due to a lack of time or money.

The proliferation of second- and third-rate medical schools in the decades after the War of 1812 starkly revealed the structural flaws in the edifice of American medical education. With the exception of the University of Pennsylvania's medical school, all medical colleges in the United States were autonomous, proprietary institutions with, at most, only a nominal link to a university or college. Since there was no external licensing body at either the national level or the state level, medical schools themselves determined the requirements for graduation. Since students paid fees directly to their professors, there was irresistible pressure on inferior medical schools to lower standards in order to undercut their rivals in order to attract more students.[4]

The bifurcation of American medical education in the antebellum era had important consequences for the successive attempts to create a national medical association in the United States. Most no-

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[3]John Harley Warner, *Against the Spirit of System: The French Impulse in Nineteenth-Century American Medicine* (Princeton, NJ: Princeton University Press, 1998), pp. 20–30.

[4]On the inability of the medical profession to regulate itself, see Paul Starr, *The Social Transformation of American Medicine* (New York: Basic Books, 1982), pp. 44–47.

tably the campaign to establish a single organization with the power to regulate the medical educational system received its greatest support from the rural colleges. Paradoxically, faculty at the elite schools energetically supported the reform of the profession but steadfastly refused to have anything to do with attempts to found a national medical society.

The eventual creation of the AMA was the culmination of an almost constant agitation within the medical profession from the 1820s onwards for admission requirements, uniform criteria for graduation, and the separation of teaching from licensure.[5] Attempts to create a national medical society as the institutional expression of the reform movement occurred in 1827, 1835, 1840, and 1846 and yet were unsuccessful until 1847 when conditions seemed no better and may even have been worse than conditions during previous attempts. The establishment of the AMA in 1847 has yet to be satisfactorily explained. Its apparent ineffectiveness during its early life has disguised its significance as the embodiment of a united medical profession.[6]

The sudden success in 1847 of the campaign to create a national organization depended on an abrupt decision by the nation's leading medical school—at the University of Pennsylvania—to throw in its lot with a host of medical colleges that Penn had previously spurned. On every previous occasion, the University of Pennsylvania had steadfastly refused the invitation to join the movement to establish a national society and, even as late as 1846, when delegates met in New York to consider the formation of the AMA, Penn had refused to send an observer. In this paper I argue that the university's volte-face in 1847 was the consequence of a transformation in the character of the student clientele in the United States during

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[5]Martin Kaufman, *American Medical Education: The Formative Years, 1765–1910* (Westport, CT: Greenwood Press, 1976), pp. 78–90.

[6]Accounts of the founding of the Association are: Eugene P. Link, "Yale, Pennsylvania, and the Founding of the American Medical Association," *New York State Journal of Medicine* (1967), pp. 946–951; Byron Stookey, "Origins of the First National Medical Convention, 1826–1846," *Journal of the American Medical Association* 177 (1961), pp. 133–140; Henry Burnell Shafer, *The American Medical Profession, 1783 to 1850* (New York: Columbia University Press, 1936); Lester S. King, "The Founding of the American Medical Association," *Journal of the American Medical Association* 248 (1982), pp. 1749–1752; and Morris Fishbein, *History of the American Medical Association, 1847–1947* (Philadelphia: W. B. Saunders Co., 1947). See also Robert Baker et al., "Crisis, Ethics, and the American Medical Association, 1847 and 1997," *Journal of the American Medical Association* 278(1997), pp. 163–164.

the 1840s. The vastly increased number of medical graduates, itself a consequence of the growth of medical schools during this period, had led to a greatly sharpened competition for patients. Even the student elite that had accumulated the accoutrements of professional improvement was finding it extraordinarily difficult to establish a successful private practice. As fewer students pursued professional improvement as a path to continued success after graduation, the elite medical colleges could no longer count on attracting students who were willing to pay for extended study and access to superior resources. As a consequence, schools such as Penn, Jefferson, and Physicians and Surgeons could no longer out-distance the second-rate schools in the competition for medical students.

This process can best be understood through a close examination of the shifting context of medical education in Philadelphia, which, throughout the Jacksonian period and the antebellum era, was the center of American medicine. In 1824 the monopoly of the University of Pennsylvania over medical education within Philadelphia had been successfully challenged by the establishment of Jefferson Medical College. In 1840, a third medical school, the Medical Department of Pennsylvania College, had appeared and in 1846 a fourth, Franklin Medical College. During the 1840s competition between rival medical schools for students threatened to culminate not merely in an inexorable decline in standards but also in a greatly reduced income from student fees for the Penn professoriate. For the University of Pennsylvania, the creation of a national medical society, whose goal was the reform of the medical profession, promised to free Penn from debilitating competition from local rivals. In 1847, the AMA appeared to the Penn faculty in a new light: less a bandwagon full of inferior schools attempting to compel Penn to climb aboard and more a vehicle for stamping out medical schools that offered an inadequate curriculum and substandard resources.

The Reform Movement, 1826–1840

Interest in the reform of medical education appeared early in the nineteenth century. Within the elite circles of the profession, reform meant, first, the establishment of uniform standards for admission to study and for graduation, and second, the separation of the authority to examine from the authority to license. Very few states had legislation on the right to practice and none had attempted to rule

on the content of the medical curriculum or requirements for graduation. Even in those states where licensure was governed by legislation, it was absurdly easy to by-pass the regulations.[7] In New York, as early as 1806, the state legislature had devolved the power of licensure to boards of censors elected by county medical societies.[8] Yet this legislation was, in practice, without effect since the state legislature had not explicitly stated requirements for practice. Hence, as the Albany physician, Theodoric Romeyn Beck, pointed out, the prospective doctor merely "takes a horse, goes to a practitioner in the Country, dubbed a *Censor* who asks him some questions for half an hour & then gives him a certificate, he rides to a second, who . . . asks a few questions & signs his name. A third does the same & he is allowed to practice. This is *scandalum magnatum*, it is the apex of prostituted honours & is absolutely legalised quackery."[9]

As Beck's strictures imply, it was elite city physicians, and more especially faculty members at the medical colleges, who pressed most strongly for reform. In Philadelphia, at meetings of the Philadelphia Medical Society, calls for the reform of American medical education were linked to the elevation of the profession. Thus Hugh Lenox Hodge, then lecturer in surgery at the Medical Institute of Philadelphia, compared the public standing of medicine—"the low opinion entertained of medical talent, which has inundated our profession with the refuse of schools and colleges; which has degraded it in the eyes of the world; which has given character to every ignorant pretender, to every undaunted, impudent empyric"—with the extensive attributes required of a medical practitioner who was expected also to be a gentleman-physician. Hodge's jeremiad lamented that the profession was being inundated by a horde of medical parvenus at a time when the social standing of a practitioner supposed "an acquaintance with history, ancient and modern, with politics, with poetry . . . It embraces the severer, but also the more important studies of mathematics, and of natural philosophy . . . To complete the character of a well educated gentleman,

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[7]William G. Rothstein, *American Physicians in the Nineteenth Century: From Sects to Science* (1972; reprint, Baltimore: Johns Hopkins University Press, 1992), pp. 75–79. For a detailed account of state licensing laws before the Civil War, see Shafer, *American Medical Profession*, pp. 204–214.

[8]Norman Shaftel, "History of the Medical Society of the State of New York, 1807–1957," *New York State Journal of Medicine* (1957), pp. 444–445.

[9]T. Romeyn Beck to John Wakefield Francis, 29 October 1813, John Wakefield Francis Papers, Box 1, Folder 8, Number 97, New York State Library.

some knowledge of law is necessary . . . all of which should be accompanied, adorned and rendered useful by a thorough acquaintance with men and manners, which can only be obtained by frequent and social intercourse with the cultivated and polished circles of society."[10]

Hodge's oration expressed the concern of city medical elites that their profession, and hence their public status, was being steadily undermined by the practice of doctors who may not have received medical degrees before beginning to practice. In this sense, the campaign for reform was not simply a call for higher standards of training or even a demand that the patient be protected from unscrupulous quacks. It reflected the wish to preserve medicine as the vocation of an elite of gentleman-physicians educated both in medical knowledge and *belles-lettres*. Medicine was pre-eminently a learned profession which, in Hodge's words, "demands not only the ordinary endowments of mind, but all that superior range of intellectual faculties which designates the man of genius; the cultivation of which, exalts him higher and higher in the scale of existence."[11]

Leading physicians in other cities echoed and amplified Hodge's concerns. In 1826, the New York physician, James Manley, blamed the ills of his profession on the absence of licensure and the competition between medical schools: "the neglect on the part of most of these schools to require from the candidates any evidence of proficiency in those studies which should form the ground-work of a medical education—the facilities with which degrees in medicine are obtained—the inducements offered to young men to enter themselves as pupils . . . all threaten to degrade and deprave the medical character."[12]

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[10]Hugh L. Hodge, *An Oration Delivered Before the Philadelphia Medical Society* (Philadelphia, 1823), pp. 9–10, 11–12. For similar appeals for medical reform, see Reynell Coates, *Oration on the Defects in the Present System of Medical Instruction in the United States* (Philadelphia, n.d. [1835]); Charles D. Meigs, *An Oration Delivered before the Philadelphia Medical Society* (Philadelphia, 1829); and George Bacon Wood, *An Oration Delivered before the Philadelphia Medical Society* (Philadelphia, 1824).

[11]Hodge, *Oration*, p. 19. On the importance of public esteem for the medical profession, see also John K. Mitchell, *The Value of a Great Medical Reputation with Suggestions for its Attainment* (Philadelphia, 1834) and John D. Godman, *Professional Reputation: An Oration Delivered Before the Philadelphia Medical Society* (Philadelphia, 1826). Hodge's characterization of the elite of the medical profession echoes efforts of eighteenth-century English physicians to identify with aristocratic patrons; see N. D. Jewson, "Medical Knowledge and the Patronage System in 18th Century England," *Sociology* 8 (1974), pp. 374–376.

[12]James R. Manley, *An Inaugural Address Delivered Before the Medical Society of the State of New-York* (New York, 1826), p. 8.

The campaign for the establishment of a national medical association that could attempt to enforce reform proposals on medical colleges began in 1826 when the Medical Society of the State of Vermont sent a circular to medical institutions in New England and New York. The circular restricted its proposals to requirements for medical practice; a student could matriculate at a medical college only if he possessed an undergraduate degree or if he could show that "his preparatory studies are sufficient to his being able to enter the freshman class in either of the colleges in this state." In addition, license to practice was to be given only to a candidate who had studied "three full years with some licensed practitioner . . . [and] shall have attended at least one course of public Medical Lectures during his pupilage."[13]

Medical societies in Connecticut and New Hampshire quickly seconded the Vermont circular. The Massachusetts Medical Society appointed a committee that subsequently reported its approval of the plan while concurring with an amendment from the New Hampshire Medical Society that a candidate for practice should attend two courses of medical lectures.[14] More significantly, the Massachusetts Medical Society proposed that delegates from the various states attend a national medical convention at Northampton in June 1827 to agree on uniform measures throughout the New England states. The Medical School of Maine, located at Bowdoin College, went one step further in suggesting that the invitation be extended to all medical schools and societies in the United States.

On 21 June, representatives from Bowdoin College, Dartmouth, Harvard, Brown, and the Berkshire Medical Institution met in Northampton with delegates from the medical societies of Maine, New Hampshire, Connecticut, and Massachusetts. Illness prevented the appearance of the delegate of the Medical Society of the State of New York, John Watts, and a representative from the College of Physicians and Surgeons also failed to arrive. The convention bravely aimed for a permanent existence as the Association of Medical Societies and Institutions and ambitiously proposed that matriculation be contingent on a Bachelor of Arts degree and specified that graduation be contingent on a three-year apprenticeship, attendance at two courses of lectures on anatomy and physiology, surgery, theory and practice of medicine, materia medica, chemistry, and mid-

[13]Stookey, "Origins," p. 133
[14]Kaufman, *American Medical Education*, p. 79.

wifery, and the defense of a dissertation.[15] The response to the resolutions of the Northampton meeting was mixed. Modifications were proposed by the medical societies of Massachusetts and New Hampshire, while in Connecticut the state legislature went so far as to pass an Act to Regulate the Study of Medicine.[16] Yet enthusiasm for reform could not long survive unless action were taken by all state legislatures and all medical colleges. If New England, medical schools were to enforce the proposed requirements, students looking for minimal training would be unwilling to matriculate at a college in Massachusetts or Connecticut when they could obtain the medical degree with greater ease elsewhere.

The absence of delegates from the University of Pennsylvania and the College of Physicians and Surgeons at the Northampton meeting does not signify that they were unresponsive to the need for medical reform. The indifference of the University of Pennsylvania, in particular, was a consequence of the nature of its student clientele which, during the antebellum period, was a self-conscious elite that looked to study not at that school offering the lowest fees and the shortest period of study but at the school that offered the best facilities and the greatest prestige. It is a mistake to view antebellum medical students as an undifferentiated herd searching for the quickest and cheapest path to the medical degree. On the contrary, there is evidence that shows that many students wanted the best possible education whatever the cost and that many of these chose, therefore, to study at Penn. Josiah Barnes, a medical student at Harvard in 1827, decided that although the move to Philadelphia would incur additional expense, the facilities offered by the university were sufficient incentive to make the journey south. Accordingly he wrote to William Horner, dean of the Penn medical school, asking to transfer to Penn: "last winter I passed in Boston, & heard a full course of lectures, from the able Professors of the Medical School in that place. However the anatomical table was not always supplied, & there was not a single private dissection, I am anxious for the best opportunities & Philadelphia is reputed to afford such."[17] Frederick King studied for one year at Jefferson Medical College but

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[15]*Proceedings of a Convention of Medical Delegates, Held at Northampton* (Boston, 1827), pp. 3, 8–9.

[16]Editorial, *Boston Medical and Surgical Journal* 1 (1828), pp. 539–540; Stookey, "Origins," pp. 136–137.

[17]Josiah Barnes to William Edmonds Horner, 14 August 1828, Medical Faculty Papers, University Archives, University of Pennsylvania.

soon realized that he could receive a better education if he walked four blocks west and enrolled at the university: "I have attended one Course of Lectures in the Jefferson School but . . . [the] mode of instruction is of the most superficial character and as *my time constitutes my fortune* I do not wish to squander it unnecessarily."[18]

Even into the 1840s, when many medical schools had improved their facilities, students looking for the best education continued to enroll at Penn. For Henry White in 1843, the resources at the university, including the availability of cadavers and opportunities for dissection, caused him to contemplate extending his study at Penn for an additional year: "The school I attend is the 'med school of the University of Pennsylvania' the oldest medical school in the country being established in 1765 it numbers this year 442 med students . . . the majority of our lecturers are very able, demonstrations from specimens very complete and on the whole it is every way decidedly the first on the continent of America . . . it's astonishing how good things may be had for money in this world . . I had as lief stay at home as go to the Boston school it is certainly a mere primary school compared to this, I think I shall come on here next winter if possible, this is too, decidedly the city of the Union for doctors, the facilities for the study making it a perfect little Paris."[19]

The stratification within the medical marketplace that led some students to choose elite urban medical schools with a relative abundance of facilities while others enrolled at colleges that provided few opportunities for dissection and clinical instruction was an enduring characteristic of antebellum American medicine. As John Harley Warner has demonstrated, the absence of formal requirements for medical practice meant that physicians distinguished themselves in the eyes of their peers and patients through professional improvement undertaken in an informal and often eclectic manner.[20] For

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[18]Frederick King to the Medical Faculty of the University of Pennsylvania, 10 October 1826, Medical Faculty Papers, University Archives, University of Pennsylvania. See also W. D. Brinckle to [William Edmonds Horner], 26 July 1826; Edmond L. B. Wales to the Medical Faculty of the University of Pennsylvania, 8 September 1826, Medical Faculty Papers, University Archives, University of Pennsylvania.

[19]Henry O. White to John Lowell, 25 January 1843, George Barrell Emerson Papers, Massachusetts Historical Society.

[20]John Harley Warner, *Against the Spirit of System: The French Impulse in Nineteenth-Century American Medicine* (Princeton, NJ: Princeton University Press, 1998), pp. 20–30. On the meaning of the Paris experience for Americans, see also John Harley Warner, *The Therapeutic Perspective: Medical Practice, Knowledge, and Identity in America, 1820–1855* (Cambridge, MA: Harvard University Press, 1986), pp. 185–206.

more than a thousand Americans, professional improvement meant a period of study at the hospitals and dissecting salons in Paris; this group of students gained both experiental knowledge and cultural sophistication that elevated them above their rivals on their return to the United States.

For Americans eager for professional improvement yet reluctant to undertake the long and expensive journey to the French capital, Philadelphia was an acceptable alternative. In the 1830s especially, the city could claim unrivalled opportunities, at least within the United States, for medical study. Both the University of Pennsylvania and Jefferson Medical College could boast a medical professoriate with national, and even international, reputations; there were innumerable dissecting lyceums that provided extramural tuition in anatomy and a lively student culture that sustained several medical debating clubs, most notably the Philadelphia Medical Society. Clinical instruction was readily available at the Pennsylvania Hospital and the Philadelphia Almshouse hospital.[21] Students who wished to pursue comparative anatomy, botany, and zoology could attend the meetings of societies such as the Academy of Natural Sciences and the Maclurian Lyceum of the Arts and Sciences. Chemistry and astronomy could be studied when itinerant lecturers visited the city.[22]

A desire for professional improvement could best be satisfied by study in Paris, an opportunity seized by a relatively small elite. For a larger group, numbering some five hundred students each year during the 1820s and around eight hundred each year in the following decade, professional improvement meant study for varying lengths of time in Philadelphia. The demand for a superior medical education rarely slackened: as early as 1818, one observer calculated that at the University of Pennsylvania "about 530 students

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[21]Simon Baatz, "'A Very Diffused Disposition': Dissecting Schools in Philadelphia, 1823–1825," *Pennsylvania Magazine of History and Biography* 108(1984), pp. 203–215; Samuel X Radbill, "The Philadelphia Medical Society, 1789–1868," *Transactions and Studies of the College of Physicians of Philadelphia*, 4th ser., 2(1953), pp. 103–123; Charles E. Rosenberg, "And Heal the Sick: The Hospital and the Patient in 19th Century America," *Journal of Social History* 10(1976–1977), pp. 428–447.

[22]Simon Baatz, "Philadelphia Patronage: The Institutional Structure of Natural History in the New Republic, 1800–1833," *Journal of the Early Republic* 8(1988), pp. 111–138; Ian Inkster, "Robert Goodacre's Astronomy Lectures (1823–1825) and the Structure of Scientific Culture in Philadelphia," *Annals of Science* 35 (1978), pp. 353–363.

have attended the lectures this winter . . . There is great spirit in the school; they give applause to what they like by their feet or their hands; and the valedictories are labored for eloquence and effect like our popular orations . . . The students wear their hats, which is a good custom, as there is no room to put them away."[23]

For a select group of medical colleges, the *national* reform movement was thus little more than an irritant. During the 1820s the University of Pennsylvania attracted students willing to pay for the best education. After Jefferson Medical College and the College of Physicians and Surgeons improved their facilities and faculty in the early 1830s, they too were able to attract elite students. The remainder of American schools had to be content with a student clientele that looked for a medical degree at the lowest possible cost. Since there were so many second-tier schools competing with each other for such students, enrollment numbers were often inadequate. Thus John Collins Warren, professor of anatomy at Harvard and a delegate to the Northampton convention, impressed on his colleagues the need for improvement at Harvard so that the medical school could make the jump to the elite group. Josiah Quincy, president of Harvard, reported to Warren his pessimism concerning the extension of the term by an additional month on account of the "other departments of the school, being either indifferent to the change, or preferring things to remain as they are" yet concurred with the professor of anatomy that "the shortness of our courses is one of y^e^ causes of predominancy in point of numbers of students in the medical schools of New York & Philadelphia."[24]

Secure in its knowledge that its student clientele had selected Penn for its superior facilities and unwilling to enter a movement for reform led by demonstrably inferior medical schools, the Penn faculty remained steadfastly aloof to reform proposals during the 1830s. In 1835 the Medical College of Georgia sent a circular to all American medical schools calling for a national medical convention and advertised the proposal in the pages of the *Southern Medical and Surgical Journal*.[25] Lewis Ford, the dean of the Medical College of Georgia, even went so far as to allow the Penn faculty to deter-

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[23]Horace Holley to [John Collins Warren], 5 March 1818, John Collins Warren Papers, Massachusetts Historical Society.

[24]Josiah Quincy to John Collins Warren, 3 January 1831, John Collins Warren Papers, Massachusetts Historical Society.

[25]N. S. Davis, *History of the American Medical Association* (Philadelphia, 1855), p. 20.

mine the place and time of the meeting, but all he received for his pains was a chilly response from William Horner, dean of the Penn medical school, that the "medical faculty, after giving it full consideration have thought it better for each school to adopt such regulations as might suit its particular views, than to enter into any general obligations on the subject, when there existed no competent power to prevent their violation."[26] Ford's attempt failed—a convention was called for May 1836 in Washington but no delegates appeared and the meeting was abandoned.[27]

The University of Pennsylvania Medical School [Figure 1]

The reluctance of the Penn faculty to lend its support to the Northampton convention and its rejection of the Georgia initiative should not be interpreted as a lack of interest in professional reform. On the contrary, throughout the 1820s and 1830s, Penn's professoriate gave public lectures insisting on the need for change, change that would elevate the standing of the medical profession, establish medicine on the surer foundation of empirical observation, and blunt the threat of homeopaths and eclectics. In 1833, Samuel Jackson, adjunct professor of the theory and practice of medicine at Penn, proclaimed in an introductory lecture that medical reform "requires an entire and new re-organization of medical instruction . . . It demands for its accomplishment the abatement of old courses, now too much considered, to their proper station; the introduction of new subjects, new branches and departments . . . With these, change is essential, the prolongation of the period of instruction."[28] Two years later, the university trustees responded to the professoriate's requests to expand the medical curriculum by establishing a professorship of the institutes of medicine and, in a sure sign that both trustees and faculty endorsed medical reform, they appointed Jackson as the first incumbent of the chair.[29]

Other reforms followed quickly. In October 1836, the trustees

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[26]Stookey, "Origins," p. 139.
[27]Kaufman, *American Medical Education*, p. 83.
[28]Samuel Jackson, *A Lecture on Medical Education* (Philadelphia, 1833), p. 26.
[29]George W. Corner, *Two Centuries of Medicine: A History of the School of Medicine, University of Pennsylvania* (Philadelphia: J.B. Lippincott Co., 1965), pp. 83–84.

Figure 1. From 1802 to 1829 the University of Pennsylvania occupied buildings on Ninth and Chestnut streets originally constructed by the State of Pennsylvania as a residence for the President of the United States. After extensive alterations were made in 1817, the University's medical school occupied the buildings to the left of the main structure.

proposed extending the term to five months. Apprehensive that students would transfer to rival medical schools on account of the expense of remaining in the city an additional month, the professoriate put the proposal to the students and, much to its satisfaction, recorded that it was "adopted by them almost unanimously." George Bacon Wood, a prominent alumnus of the medical school and the new professor of materia medica, confided triumphantly to his diary that he considered extension of the term "only as one step towards placing the institution on its proper basis. According to my present views, I shall not be satisfied till I see the number of professors increased to 8, the session extended to 6 months, and a system of supplementary instruction, including clinics, adopted during the summer season."[30] **[Figure 2]**

Two years later, Wood chaired a faculty committee to report on a proposal by the board of trustees to extend again the length of the term. On his own initiative, Wood also suggested the abolition of the chair of the institutes of medicine and, in its place, the creation of a chair of physiology and hygiene and a chair of general pathology and pathological anatomy. Finally, he advocated the expansion of clinical teaching at the university by appointing "clinical lecturers, one, two, or more, among the physicians & surgeons connected with our public hospitals." The expense of such wide-ranging changes in the curriculum was, however, too great. Wood's enthusiasm for reform was blocked by significant majorities of the trustees and faculty.[31]

Supporters of the university claimed that the enlargement of the curriculum and the extension of the term were measures dictated by the expansion of medical science and the need to train competent medical practitioners. Yet it was common knowledge that other motives lay behind the reform initiatives at Penn in the 1830s, most notably, the increasing success of Jefferson Medical College in attracting students to its program. The establishment of Jefferson Medical College in Philadelphia in 1824 had occasioned jeremiads from Penn professors that the success of their medical school was threatened. Interestingly enough the Jefferson professo-

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[30]George Bacon Wood, 30 November 1836, Journal number 3, College of Physicians of Philadelphia.

[31][George Bacon Wood], Report to the Faculty of the University in Relation to the Subject of an Extension of the Plan of Instruction Referred to Them by the Board of Trustees, 31 December 1838, George Bacon Wood Correspondence, College of Physicians of Philadelphia.

Figure 2. George Bacon Wood (1797–1879). After graduating from the University of Pennsylvania's School of Medicine, Wood established a lucrative private practice in Philadelphia. He was appointed Professor of Materia Medica at Penn in 1835 and moved to the Chair of the Theory and Practice of Medicine in 1850. As a trustee of the university from 1853 to 1879, Wood oversaw the creation of an Auxiliary Medical Faculty in 1865 for the purpose of teaching basic sciences at the medical school. (Courtesy of the Archives of the University of Pennsylvania)

riate aimed to compete with Penn on its own ground; it would win a student clientele not by lowering standards but by providing a medical education superior to that offered at Penn. Jefferson, calculating that students who came to Philadelphia from outside the state—a majority of Penn's student body—were looking for a superior education, extended the term. Accordingly in 1835 Jefferson began the course of lectures one month early—at the beginning of October—and allowed free admission to the lectures to all medical students in the city until November. Students who had originally intended to matriculate at Penn began to enroll instead at Jefferson. The University was thus compelled to match Jefferson's initiative and offer free admission to its October lectures. For George Bacon Wood, the threat of competition from Jefferson was sufficient reason for medical reform. In his report to the university trustees, he pointed out that, since the 1820s, rivals "have since sprung up . . . some have advanced far towards producing an impression that the advantages that they offer are at least not greatly inferior." Students chose Penn "in consequence of the greater reputation of our school. Let this reputation relatively decline & the value of our diploma will decline in proportion, & the number of our pupils along with it."[32]

The Medical College of Philadelphia

In 1836, a small group of Philadelphia physicians established the Medical College of Philadelphia which, despite its name, was not an educational institution but an attempt to create a regulatory body for medical practice in Pennsylvania. In a preamble to the constitution, the founders informed the medical profession that they had "agreed to associate ourselves for the purpose of claiming, on behalf of the Profession, that influence over the regulation of Medical Instruction, and the means of Medical Improvement, which is so essential to the respectability of the Profession."[33] The Medical College announced that candidates for the college's diploma should have studied medicine for three years at a recognized institution (including at least one course of dissection), should have spent one year at a hospital, and should have written a thesis that included the

[32][George Bacon Wood], Report to the Faculty, 31 December 1838, George Bacon Wood Correspondence, Library of the College of Physicians of Philadelphia.
[33]*Constitution and By-laws of the Medical College of Philadelphia* (Philadelphia, 1836), p. 3.

"history of two cases" observed by the candidate. The separation of teaching and licensing was frequently advocated by medical societies promoting reform during the antebellum period. Thus, the Medical College of Philadelphia stipulated that a candidate had to pass a "satisfactory oral and written examination . . . before a board of six examiners, who should be physicians not engaged in medical teaching."[34]

This attempt to regulate medical practice was entirely quixotic. Both the University of Pennsylvania and Jefferson Medical College treated it with complete indifference. Petitions to the state legislature in 1839 and 1840 for a charter attracted the signatures of over one hundred Philadelphia physicians, but even after a charter was granted at the second attempt, the Medical College of Philadelphia was ineffective since its approval was necessary neither for graduation nor for practice. In 1841 the organization was abandoned by the reform group of Philadelphia physicians.[35] Nonetheless the College's membership rolls establish that the reform movement in Philadelphia was organized by a remarkably cohesive group of physicians, most of whom had followed very similar career paths. Indeed, the leadership of the Medical College of Philadelphia was virtually identical with that of the Kappa Lambda Society of Hippocrates, a quasi-secret society organized in 1822 to promote the interests of its members and advance the cause of medical reform.[36] In 1826, Hugh Lenox Hodge, Franklin Bache, Charles Delucena Meigs, Benjamin Horner Coates, and Réné La Roche—all founding members of Kappa Lambda—constituted the editorial board of the *North American Medical and Surgical Journal.* Accusations against the New York section of Kappa Lambda that its members conspired to award themselves lucrative and influential positions at the New York Hospital and the College of Physicians and Surgeons were sufficiently damaging to

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[34]Alfred Stillé, *Medical Education in the United States: An Address Delivered to the Students of the Philadelphia Association for Medical Instruction* (Philadelphia, 1846), p. 39.

[35]William Frederick Norwood, *Medical Education in the United States Before the Civil War* (Philadelphia: University of Pennsylvania Press, 1944), p. 106.

[36]Information on Kappa Lambda comes from: Chauncey D. Leake, "What Was Kappa Lambda?" *Annals of Medical History* 4 (1922), pp. 192–206; Lee D. van Antwerp, "Kappa Lambda, Elf or Ogre?" *Bulletin of the History of Medicine* 17 (1945), pp. 327–350; Philip Van Ingen, "Remarks on 'Kappa Lambda, Elf or Ogre?' and a Little More Concerning the Society," *Bulletin of the History of Medicine* 18 (1945), pp. 513–538. [Editor's note: The Philadelphia Branch of Kappa Lambda was also the subject of a paper presented by Robert Baker, Ph.D. at the College of Physicians as part of the 1997 conference on Hippocrates and Modern Medicine.]

cause all Kappa Lambda sections in the United States to disband. Thus in 1835 the Philadelphia group formally wound up its affairs. Yet the leadership group continued to meet and in 1836 reappeared as the Medical College of Philadelphia.

The leaders of the Medical College had pursued similar career paths. They had combined medical study at Penn with a pupilage with a prominent Philadelphia physician and additional training during the summer at one of the many extramural dissecting schools in the city. Their graduation from Penn during the 1820s was followed by a period of study in Paris and, on return to Philadelphia, the establishment of a private practice in one of the fashionable districts of the city. Most members of this medical cohort cultivated an interest in science and joined either the Academy of Natural Sciences or the American Philosophical Society and, after a suitable period, received an invitation to attend gatherings of the Wistar Party, an elite group of twenty-four prominent physicians and savants that met for dinner on Saturday evenings. Their professional ambitions aimed at a medical chair at the University of Pennsylvania or Jefferson Medical College and, if that failed to materialize, they were always interested to learn of attempts to establish a third medical school and never reluctant to advance their claim for a professorship.

For members of this cohort, therefore, reform of the medical profession allowed them to promote their own claims for professional advancement. Medical reform was, of course, a desirable end in itself. It had a particular resonance, moreover, for those physicians who had studied in Paris and had returned acutely aware of the feeble training available to an American medical student in his native country. The epistemology of the Paris clinical school appealed to American physicians as a weapon against speculative rationalism and was part of a program to provide for professional uplift.[37] Advocacy of medical reform could also serve to advance the careers of physicians who hankered after a medical professorship. It could attract the attention and approbation of the medical elite and might win patronage, an essential element in the competition for a professorship. At a time when allopaths were attempting to rebut the criticisms of homeopaths and Thomsonians and during a period when the public increasingly rejected heroic therapies, reform was

[37]John Harley Warner, "The Selective Transport of Medical Knowledge: Antebellum American Physicians and Parisian Medical Therapeutics," *Bulletin of the History of Medicine* 59(1985), pp. 226–228.

an important part of the campaign to maintain and elevate the professional standing of regular physicians. Ultimately, those physicians who campaigned publicly for medical reform in the 1820s and 1830s subsequently obtained professorships, either by appointment to the faculties at Penn or Jefferson or through the creation of new medical schools in Philadelphia.

Franklin Bache, a founder of Kappa Lambda and a leading member of the Medical College of Philadelphia, taught chemistry to classes at the Franklin Institute, a mechanics' association established in 1824. Bache's position at the Franklin Institute was emphatically marginal to the city's medical community and depended, moreover, on the continued enthusiasm of Philadelphia artisans for chemical knowledge. In 1831 he won the chair of chemistry at the Philadelphia College of Pharmacy and in 1841, after a decade spent promoting the cause of medical reform, he received the chair of chemistry at Jefferson Medical College and his future success was assured. Bache's subsequent career was a series of triumphs—he was elected president of the American Philosophical Society in 1853 and vice-president of the College of Physicians of Philadelphia in 1855.[38] Hugh Lenox Hodge, an 1818 Penn graduate and lecturer at the Medical Institute of Philadelphia, was one of the most vocal members of Kappa Lambda in arguing for reform of the medical profession. Hodge's failure to establish a successful private practice—he could not afford even to purchase a horse and carriage for many years—was not, however, a barrier to professional success.[39] In 1835 he was appointed professor of obstetrics and diseases of women and children at Penn, joining the university faculty in the same year as his Kappa Lambda colleague, Samuel Jackson.[40] Charles Delucena Meigs graduated from Penn in 1817, joined Kappa Lambda as a founding member in 1822, and lectured in midwifery for several years at Joseph Parrish's extramural anatomical school. His application in 1835 for the vacant chair of obstetrics at Penn was unsuccessful, but six years later, Meigs was elected professor of obstetrics and diseases of women at Jefferson Medical College.[41]

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[38]George B. Wood, *Biographical Memoir of Franklin Bache, M.D.* (Philadelphia, 1865), pp. 12–47, passim.

[39]Cato, "Sketches of Eminent Living Physicians—Hugh L. Hodge," *Boston Medical and Surgical Journal* 41 (1850), p. 519.

[40]R. A. F. Penrose, *A Discourse Commemorative of the Life and Character of Hugh L. Hodge, M.D., LL.D.* (Philadelphia, 1873), p. 13.

[41]Cato, "Sketches of Eminent Living Physicians—Charles D. Meigs," *Boston Medical and Surgical Journal* 40 (1849), pp. 314–315, 333.

The Medical Department of Pennsylvania College

In 1839, shortly after his dismissal from Jefferson Medical College on account of a faculty squabble, George McClellan organized a third medical school in Philadelphia. Realizing that the combined opposition of Penn and Jefferson would defeat an attempt to obtain a charter from the state legislature, McClellan and a co-conspirator, William Rush, travelled to Harrisburg to obtain an amendment to the charter of Pennsylvania College, a small school located at Gettysburg, in the interior of the state.[42] [Figure 3] McClellan's amendment would enable Pennsylvania College to award medical degrees; despite the opposition of representatives who had been tipped off by the Penn faculty, the bill passed both houses successfully:

> We got our bill brought up out of its order (weeks before its proper place on the list it being no. 245) & dashed it through its three readings had it suddenly transcribed & laid before the Senate & discussed there all in a twinkling. The City members (all excepting Dr. [Jesse R.] Burden) opposed it furiously . . . They offered amendment upon amendment & postponement upon postponement & struggled very hard, and they were aided by the most powerful Democrat in the House . . . When it got into the Senate in the surprising short space of 15 minutes (procured by a ten dollar bank note slyly put into the paws of a transcribing clerk by me) they were astonished. But the City members all ran into the Senate & made every effort to prevent its consideration there. We got it up however by a decided majority in spite of their malignant efforts.[43]

The Medical Department of Pennsylvania College quickly established its presence in the city with an initial enrollment of almost one hundred students, most of whom were pupils of McClellan and the other faculty members. Students were attracted to Pennsylvania College in succeeding years principally on account of its lower costs: tuition for the two-year course was $215, thirty dollars less than the

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[42]Norwood, *Medical Education*, p. 94; Harold J. Abrahams, *Extinct Medical Schools of Nineteenth-Century Philadelphia* (Philadelphia: University of Pennsylvania Press, 1966), pp. 29–31.

[43]George McClellan to Samuel George Morton, 29 February 1840, Samuel George Morton Papers, American Philosophical Society.

Figure 3. George McClellan (1796–1847). McClellan graduated from Yale in 1816 and from the University of Pennsylvania's School of Medicine three years later. McClellan successfully established Jefferson Medical College in 1825 and, after leaving Jefferson in 1839, opened the Medical Department of Pennsylvania College (Courtesy of Thomas Jefferson University)

fees at Jefferson and seventy dollars less than those at Penn.[44] In other respects, however, the new school offered an education only slightly inferior to that of its rivals: the faculty consisted of seven professors covering the standard curriculum; students at Pennsylvania College also had access to the clinical lectures at the two hospitals in Philadelphia.[45]

Franklin Medical College

In 1846 a fourth medical school was established in Philadelphia. The Franklin Medical College won a charter from the state legislature on January 28, 1846 and was soon in operation in a building previously owned by the Medical Institute of Philadelphia on Locust and Eleventh Street. A faculty of seven professors taught anatomy and histology, surgery, principles and practice of medicine, materia medica, obstetrics, physiology and legal medicine, and chemistry.[46] Since the facilities of the Philadelphia Almshouse hospital had been closed indefinitely to medical students during the previous year, the new school had organized a general dispensary providing free treatment: "patients will be examined and prescribed for, and clinical lectures delivered by the physicians and surgeons of the School." Franklin Medical College went one better than its three rivals, however, in offering—for the first time in Philadelphia—lectures in microscopic anatomy and histology: Paul Beck Goddard, a Penn graduate, occupied the chair of anatomy and histology.[47]

The ticket for each course cost $15, thus undercutting Penn and Jefferson (where tickets were $20) and making Franklin Medical College comparable with Pennsylvania College. The faculty at the Franklin Medical College claimed that its students would "have an equal participation in all the advantages that have made Philadelphia the medical metropolis of the Union. In freedom of access to hospitals, libraries, museums, &c., our students will stand on a footing with those of other institutions." Even though the proliferation of medical schools in Philadelphia had resulted in a chronic shortage of cadavers, the faculty confidently promised "to

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[44]Norwood, *Medical Education*, pp. 94–96.
[45]Abrahams, *Extinct Medical Schools*, pp. 35–43.
[46]Abrahams, *Extinct Medical Schools*, pp. 161–168.
[47]*Annual Announcement of the Franklin Medical College* (Philadelphia, 1846), p. 7; Norwood, *Medical Education*, p. 100.

secure an abundant and cheap supply of material for the rooms of the Department of Anatomy."[48]

The readiness of the Pennsylvania state legislature to grant charters to new medical schools in 1839 and 1846 was clearly a consequence of increased republican and democratic sentiment in antebellum American society. Physicians intent on establishing medical schools could plausibly assert that any other policy was tantamount to conferring a monopoly on a self-appointed elite.[49] Indeed, even the Penn professoriate had to grudgingly acknowledge that the claims of elite medical science were no match for the rhetoric of republican democracy. George Bacon Wood traveled through the South in 1844, visiting Natchez, Memphis, Louisville, and New Orleans to publicize the new *United States Dispensatory* and noted the appearance of new medical schools everywhere he went. He anticipated that these would eventually begin to reduce Penn's annual intake of southern students. The democratic process was inexorable and Wood's resignation to that fact was palpable: "In these times when everybody can teach, and one man is quite as good as another,—for why should not democracy prevail in medicine & science generally as well as in politics,—it is the easiest thing in the world to form a faculty of professors; and nothing but a few dollars and cents are wanting to make a great medical school."[50]

By the same token, moreover, the inability of the Penn trustees to prevent the charter of Franklin Medical College reflected their dwindling influence at the state capital. In the early national period, the trustees of the University of Pennsylvania comprised a group of men notable for power and influence within both federal and state politics. By 1846, the trustees consisted of men with reputations only in Philadelphia; they no longer exerted influence even in Harrisburg, much less Washington.

Twenty years earlier, the creation of Franklin Medical College and the Medical Department of Pennsylvania College would not

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[48]*Annual Announcement of the Franklin Medical College*, p. 3.

[49]During the same period state legislatures were also repealing licensing laws, thus allowing Thomsonians and homeopaths to practice without restriction. See Richard Harrison Shryock, *Medicine and Society in America, 1660–1860* (New York: New York University Press, 1960), pp. 148–149; Richard Harrison Shryock, *Medical Licensing in America, 1650–1965* (Baltimore: Johns Hopkins University Press, 1967), pp. 30–31.

[50]George Bacon Wood to Franklin Bache, 17 May 1844, George Bacon Wood Correspondence, College of Physicians of Philadelphia.

have significantly eroded Penn's pre-eminence as a cynosure for medical students looking for professional improvement. The combination of resources and faculty that Penn offered was, in part, a consequence of the longevity and wealth of the university medical school and could not easily be replicated. Within a labile medical marketplace, catering to a student clientele that valued professional improvement rather than the medical degree, and possessing resources for clinical and scientific study that were unrivalled, the University of Pennsylvania medical school did not need to panic about its future ability to attract sufficient numbers of students.

By the 1840s, however, the situation had radically changed. The expansion of the number of medical schools had resulted in a concomitant increase in the numbers of medical students. Figures are notoriously imprecise, but it is a fair approximation to estimate that the number of graduates in the 1840s was ten-fold what it had been three decades earlier. From 1840 to 1849 almost twelve thousand students graduated from the nation's medical schools.[51] Competition to establish a profitable medical practice sharpened accordingly; no longer could an elite practitioner assume that he would attract a clientele on completion of his training. Thus Alfred Stillé, a member of Philadelphia's medical elite who had graduated from Penn in 1836 and had studied in Paris, was particularly well suited to express the frustration that members of his cohort experienced in the race for professional positions. Despite his education at Penn and his extensive clinical experience at Pennsylvania Hospital, he had been unable by 1844 to obtain a secure position. Stillé attributed his lack of success to the wholesale deterioration of the profession: "the country is overrun with half educated physicians, besides whole brigades of quacks, and the chances of earning one's meat & drink are just about in proportion to one's disregard of truth, honour, and modesty."[52] Stillé found it particularly galling that the medical schools in his native city led the rest of the country in the production of graduates, all of whom were rivals for a finite number of patients: "Heavens only knows what is to become of all the Doctors ground, or rather bolted, out of the innumerable mills from Maine to Texas. They should be sent as pioneers to Oregon.

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[51]Rothstein, *American Physicians*, p. 98.

[52]Alfred Stillé to George Shattuck, 6 August 1844, Shattuck Papers, Massachusetts Historical Society.

In N.Y. the two schools graduate, I believe, 130 or 140; in this city the University alone will send out nearly that number, and the Jefferson College has given its diploma to 114, to say nothing of a toadstool affair here called the Penn[a] College."[53]

The proliferation of medical schools subtly transformed student demand for education and training in the antebellum era in the United States. The task of building a private medical practice had never been easy—even for those graduates supplied with the best education, training, and connections. It had been a process that required patience and stamina. By 1847 the number of medical men—whether allopathic or irregular—was so great that even the elite practitioners trained in the best medical schools were struggling to establish themselves successfully. The inability of elite students to carve out careers despite having all the advantages of professional improvement—study in Paris, clinical experience at Pennsylvania Hospital, education at Penn or Jefferson—resulted in the transformation of the nature of student demand for medical training. No longer could the elite schools count on a student clientele that valued access to superior resources and opportunities. Throughout the 1840s, an increasing number of American medical students were looking for an education that, while still reputable and worthwhile, was also reasonably inexpensive and accessible.

Thus for the University of Pennsylvania medical faculty, the creation of Franklin Medical College in 1846 was an ominous warning of future hazards. The growth of medical schools in Philadelphia might not end with Franklin Medical College; it was not unlikely that yet another group of physicians would apply for a medical school charter and no less likely that the state legislature would grant the request. While it was too early to say whether Pennsylvania College and Franklin Medical College would amount to anything substantial, it was now apparent that the Penn medical school was at least potentially in a position to be undercut by its rivals. For the Penn medical faculty, the organization of a national medical society with an avowed aim of establishing uniform standards of graduation now took on a different meaning; the creation of the American Medical Association might be a cause that both Penn and Jefferson could endorse.

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[53]Alfred Stillé to George Shattuck, 26 March 1844, Shattuck Papers, Massachusetts Historical Society.

Medical Reform and Career Success

In May 1846 delegates from eleven medical schools met in New York and voted to establish a national medical organization the following year. They chose Philadelphia as the location of the first convention of the American Medical Association not because of any interest from the University of Pennsylvania and Jefferson Medical College—there had been none—but because the Philadelphia Medical Society, a debating club, had sent twelve delegates to the New York meeting. Members of the society had promised to organize local support among Philadelphia physicians to make the first meeting of the AMA a success. National coordinators of the Association accepted the society's offer in part because they still hoped that either Penn or Jefferson or both might be induced to climb onto the AMA bandwagon.

The delegates of the Philadelphia Medical Society had all graduated from Penn; most were connected in some way either with the extramural anatomical schools such as the Medical Institute of Philadelphia or with one of the two medical schools established in 1839 and 1846. Some had been associated with earlier reform groups in Philadelphia such as the Kappa Lambda Society and the Medical College of Philadelphia. Most significantly, however, delegates from the Philadelphia Medical Society were invariably ambitious men looking for an opportunity for professional advancement. Prominence in the reform movement did not invariably lead to career success in the 1850s and 1860s; some leaders of the society who attended the early AMA conventions failed to win medical chairs and eventually resigned themselves to private practice. Others, however, used their prominence as AMA spokesmen as a stepping-stone to win professorships.

John Bell had been a member of Kappa Lambda and, in 1839, a leader and founding member of the Medical College of Philadelphia. He edited the *Select Medical Library and Eclectic Journal*, served as the president of the Phrenological Society of Philadelphia, and taught physiology for many years at Nathaniel Chapman's extramural summer school, the Medical Institute of Philadelphia. In 1846 he led the delegation of the Philadelphia Medical Society at the New York medical convention and, in recognition of his many years as a reform advocate, was elected vice-president of the meeting. Relentlessly energetic and ambitious, he was, however, an uninspiring and even tedious lecturer. In 1850, when Penn's chair of the institutes of medicine became vacant, Bell strenuously lobbied the

university trustees for the appointment, but his application was rejected. Bell's failure as a teacher—"he is not a very imposing lecturer—he attends more to the matter than to the manner"—consigned him to the oblivion of general practice.[54]

Isaac Hays, another delegate from the Philadelphia Medical Society, had graduated from Penn in 1820. A founding member of Kappa Lambda, he was elected secretary of the Philadelphia section of the society in 1825. The following year, largely on account of his friendship with the publisher-scientist Isaac Lea, Hays became editor of the *American Journal of the Medical Sciences*. Hays was briefly associated with an extramural anatomical school, Jason Lawrence's Philadelphia Anatomical Rooms, but his skill as an opthalmologist linked his career with the Pennsylvania Infirmary for Diseases of the Eye and Ear, where he had served on the surgical staff since 1822. Hays, like Bell, had worked for several years for the cause of medical reform and at the 1846 meeting he was granted the honor of proposing the resolution to create "a National Medical Association." At the Philadelphia meeting in 1847, Hays was elected treasurer of the American Medical Association, a position that he held until 1852. During the 1850s and 1860s he achieved professional eminence as ophthalmic surgeon at the Wills Eye Hospital. He was soon honored by election to the Wistar Party and, in 1865, became president of the Academy of Natural Sciences.[55]

Alfred Stillé also attended the New York meeting. A Penn graduate who had studied in Paris with Louis, Stillé had been resident physician at the Pennsylvania Hospital from 1839 to 1841. In 1845 he had been appointed lecturer on pathology and the practice of medicine at the Philadelphia Association for Medical Instruction, an extramural medical college open only during the summer.[56] The platform provided by the Philadelphia Association was not a lofty one, yet Stillé used it to great effect. In a valedictory to the students at the end of the summer courses on 30 October 1846, Stillé spent the majority of his time on an invidious comparison between medical education in Continental Europe and that in the United States, concluding that "as a necessary consequence . . . we are bound to re-

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[54]Cato, "Sketches of Eminent Living Physicians: John Bell," *Boston Medical and Surgical Journal* 40 (1849), pp. 99–101, 156–157.

[55]Alfred Stillé, "Memoir of Isaac Hays, M.D.," *Transactions of the College of Physicians of Philadelphia*, 3rd ser., 5(1881), pp. lxxx–cii.

[56]Charles W. Burr, "A Sketch of Dr. Alfred Stillé," *University Medical Magazine* 13(1900–1901), pp. 762–763; William Osler, "Alfred Stillé," *University of Pennsylvania Medical Bulletin* 15(1902–1903), pp. 126–129.

model American education upon European principles." The medical profession's failure to adopt reform measures and its complacency over falling standards would lead it irrevocably into decline and, worse, to a competition with irregular practitioners that allopaths were already losing: "the public—even the enlightened public—often prefer before us impudent quacks, the practitioners of arts at which humanity shudders, or the adherents of systems before which reason veils her face."[57] His advocacy of medical reform, most notably in his 1846 pamphlet, *Medical Education in the United States*, resulted in his election as secretary at the New York meeting, a position he also held at the inaugural meeting of the AMA in 1847.

Stillé was the most prominent advocate of reform during the 1840s, yet professional success came only haltingly. By 1850 the medical professoriate in Philadelphia had stabilized. The generational cohort that had begun the reform campaign in the 1820s now occupied chairs at the four Philadelphia medical schools and since members of that cohort were still in mid-career during the 1850s, vacancies rarely appeared. For the reform advocates who had begun their careers in the 1840s, therefore, upward professional mobility was elusive. Stillé was clearly the most eminent member of the later generation, publishing widely-acclaimed textbooks and serving on the medical staff at St. Joseph's Hospital, but he did not receive a chair until 1854, when he was elected professor of the theory and practice of medicine at Pennsylvania College. Another decade passed before he reached the pinnacle of professional success when he became professor of the theory and practice of medicine at Penn.

The Founding of the American Medical Association

The medical schools represented at the 1846 meeting in New York provided little hope that a national medical society was being born. Only eleven schools sent delegates; the majority were obscure medical colleges with few resources and little influence over the profession. They included Geneva Medical College, the Washington Medical College of Baltimore, Illinois College, the Vermont Medical College, and La Porte University in Indiana, all third-tier schools that graduated few students. Even the second-tier schools—Yale, the Medical Department of Pennsylvania College, Albany Medical College, and the Berkshire Medical Institute—lacked significance.

[57] Stillé, *Medical Education*, pp. 26, 27.

The University of the City of New York had sent two delegates but unfortunately for the nascent association, both resolutely opposed the convention since the "list of Delegates showed very clearly that the body present could not with any propriety term themselves a National Convention, inasmuch as . . . a majority of the oldest and most important Medical institutions in the Union were entirely unrepresented."[58] Among the medical schools represented at the New York gathering, only the College of Physicians and Surgeons, a reputable school that had existed in New York for almost four decades, could be said to have any influence over the medical profession. Without representatives from the University of Pennsylvania or Jefferson Medical College, the campaign to form a national medical society seemed destined to fail.

Within the pages of the medical press, the refusal of Penn and Jefferson to send delegates to the New York meeting was perceived as a serious blow to the reform movement. The editor of the *St. Louis Medical and Surgical Journal* cogently expressed his regret that "opposition should come from the Philadelphia schools. Philadelphia has been, and is yet regarded the head quarters of medical teaching in this country, and hence the influence of this city on the destinies of the profession, is greater than that which any other city could exert. Should Philadelphia lend her aid in the advancement of medical reform, this object of the Convention would be much facilitated, but it appears that she will not do this. We are sorry—but we despair not."[59] Yet by November 1846, the University of Pennsylvania had agreed to participate in the 1847 convention at Philadelphia.[60] As a consequence, Nathaniel Chapman, doyen of the Penn professoriate and leader of the Philadelphia clerisy, was nominated as the first president of the AMA. With Penn's imprimatur, the AMA bandwagon picked up speed so that by the opening session on 5 May 1847, twenty-eight medical schools and more than forty state and local medical societies had sent delegates.[61] **[Figure 4]**

The creation of a national medical association cannot be as-

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[58]"National Medical Convention," *New-York Daily Tribune*, 6 May 1846.

[59]Editorial, "The National Medical Convention," *St. Louis Medical and Surgical Journal* 3 (1845–1846), p. 504. See also "National Medical Convention," *St. Louis Medical and Surgical Journal* 4 (1846–1847), pp. 14–20.

[60]"National Medical Convention," *New Orleans Medical and Surgical Journal* 3(1846–1847), p. 547.

[61]N. S. Davis, *History of the American Medical Association*, ed. S. W. Butler (Philadelphia, 1855), p. 41.

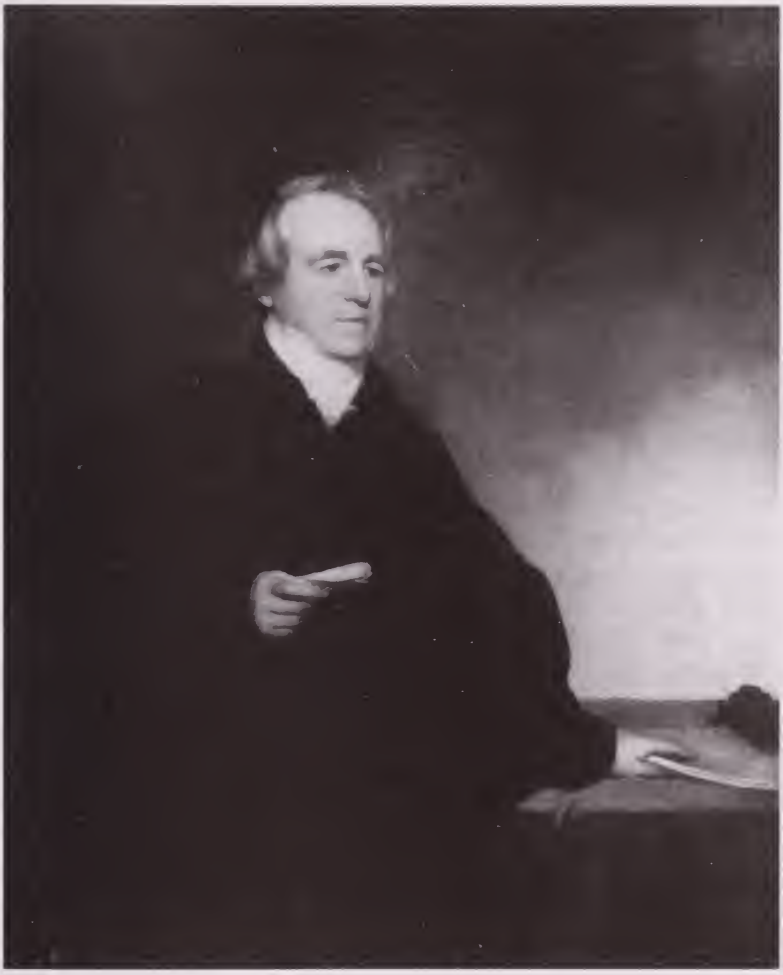

Figure 4. Nathaniel Chapman (1780–1853). After graduating from the University of Pennsylvania Medical School in 1801, Chapman studied in Edinburgh before returning to Philadelphia to establish a successful private practice. In 1813 the was appointed Professor of Materia Medica and in 1816 Professor of the Theory and Practice of Medicine at Penn. Chapman served as editor of the *Philadelphia Journal of the Medical and Physical Sciences* from 1820–1827 and served as president of the Philadelphia Medical Society for many years. In 1847, Chapman was elected as the first president of the American Medical Association. (Photograph courtesy of the Archives of the University of Pennsylvania)

cribed to the supposed maturity of the American medical profession; the feeble attendance at the 1846 meeting revealed that few medical schools believed that a national medical society was likely to succeed. The University of Pennsylvania threw in its lot with the organizers of the national medical society in an attempt to beat back the competitors that had recently appeared in Philadelphia. If the new organization were to be successful in imposing national standards on medical schools, then the new medical colleges that were then appearing with such frequency might be susceptible to external control. The creation of medical schools would no longer depend on the whims of state legislatures but could be controlled by the American Medical Association. The proposal to establish a national medical society that would establish a standard curriculum and prescribe requirements for matriculation and graduation suddenly appeared to the Penn professoriate in a different light. Whereas, only a short time previously, such attempts had been viewed as efforts by a motley collection of inferior proprietary schools to lower Penn to their standards, in 1846 the proposal to establish the American Medical Association appeared as a source of welcome relief from the competition of such parvenus as Franklin Medical College. If the AMA could enforce a uniform curriculum and standards throughout the American medical profession, and if the University of Pennsylvania could establish itself at the head of the AMA, then the reform movement could become a reality and the University of Pennsylvania would have little to fear from competitors.

The Compulsory Registration of Patients with Tuberculosis: An 1894 Debate at the College of Physicians

Robert L. Martensen, M.D., Ph.D. [1]

Introduction

In 1893 the Philadelphia County Medical Society passed a resolution urging the Philadelphia Board of Health to place tuberculosis on the list of contagious diseases and to require local physicians to register any patients with the disease. In the same city, however, members of the venerable and elite College of Physicians divided over the issue. In December, 1893 Fellow Owen J. Wister, M.D. presented a resolution to the College's governing Council, denouncing registration as "cruel, unnecessary and impracticable."[2] Lawrence F. Flick, M.D. countered Wister with his own resolution in favor of registration and establishment of a public hospital for consumptives. The Council approved neither, however, settling instead on a third resolution, described below. This third alternative was submitted by Jacob M. DaCosta, M.D., professor of the theory and practice of medicine at Jefferson Medical College, and a past and future president of the College. The Council selected January 12, 1894 as the date of a "Special Meeting" for the members to discuss the resolutions and vote.

Even though statistics gathered a few years later would show that the mortality rate from tuberculosis had fallen fifty percent since the Civil War, tuberculosis continued to kill more Americans

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[1]The author thanks Christopher Crenner and Deborah Franklin for their valuable comments on earlier drafts of this paper.

[2]Minutes, College of Physicians of Philadelphia, Dec. 6, 1893; Council Minutes, College of Physicians, Dec. 26, 1893, MS Historical Library of the College of Physicians of Philadelphia. See also Whitfield Bell, Jr., *The College of Physicians of Philadelphia: A Bicentennial History.* (Canton, MA: Science History Publications, 1987), p. 181, n. 26.

than any other disease.[3] Furthermore, contemporaries thought that the disease tended to strike down men and women in their prime—their twenties, thirties and forties—thereby creating many family tragedies as well as robbing society of the benefit of these productive members. Physicians and nurses seemed particularly vulnerable, "breaking down" under the stress, fatigue, and exposure they experienced while caring for the urban poor. The urban poor themselves experienced substantially greater morbidity and mortality from tuberculosis than did their more affluent counterparts. In addition, they had to cope with loss of employment and other consequences of a disease that made them, more than the prosperous, see themselves and be seen by others as a danger to the community.[4]

This essay explores some aspects of the College's debate over registration, much of which was subsequently published in its annual journal, *Transactions and Studies*. My format is an annotated narrative of the debate, because I want to give a sense of what tuberculosis meant to some influential physicians in the late nineteenth century in the context of their self-identity as men of science holding a dual responsibility for their patients' and for the general public's health. The controversy also illustrates a general theme that physicians practicing during the late nineteenth century debated in several arenas: the authority of new, laboratory-based models of disease to dictate the standards of clinical practice and public health policy.

Background on the Debate

The controversy over public registration of persons with "consumption," while unprecedented in the College's history, probably would have pleased at least one of its founders. According to Benjamin Rush, M.D., the College existed primarily to address public health concerns. Speaking to the members in 1793, six years after the College's founding and during a year when Philadelphians experienced a devastating yellow fever epidemic, Rush opined that what distinguished a college of physicians from a medical society was the former's commitment to address public issues such as es-

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[3]Barbara G. Rosenkrantz, "Preface" and "Mortality Statistics," in *From Consumption to Tuberculosis: A Documentary History* (New York: Garland, 1994).
[4]Ibid.

tablishing a dispensary and advising legislative bodies on public health matters. Every inch a son of the Enlightenment and a firm believer in the value of the American Revolution, Rush often waxed poetic on the "revolution in human happiness" that American physicians were about to bring about thanks to "liberty and republican forms of government."[5] With less ideological fervor, perhaps, the College's constitution declared the organization's first aim to be "to advance the science of medicine, and thereby to lessen human misery . . ."[6]

The College's interest in public health matters increased in response to Philadelphia's rapid industrialization and urbanization after the Civil War. In 1868 the members unanimously approved an "earnest but respectful appeal" to Philadelphia's mayor, governing councils, and Board of Health to clean the city's streets. In 1874 the College suggested to the Philadelphia Fountain Society that it place urinals in "places of daily resort."[7] In 1878 College members invited Colonel William Ludlow, the engineer who had reformed the Philadelphia Water Department, to enlighten them on the proper arrangement of municipal water supplies.[8]

Paralleling their interest in municipal health, post-Civil War Fellows also used the College as a venue for discussing advances in medical knowledge, especially when these concerned public health. When cholera returned to Europe and Asia during the early 1880s, College member Edward O. Shakespeare, M.D. displayed microphotographs and actual specimens of cholera bacilli to buttress his appeal for the College's endorsement of recommendations regarding municipal preparation for the expected epidemic. Indeed, cholera's appearance in Philadelphia during the late 1880s provoked sustained interest in epidemic control among College members. The College's responses included specific recommendations to the Board of Health as well as extensive summary reports that were distributed to medical societies throughout the United States. When cholera threatened again in 1893, the College, primed by its experience with cholera in 1884 and 1885, wasted no time in setting up an intelligence network of Philadelphia physicians pledged to report to

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[5]Benjamin Rush, "Discourse," *Trans. of the College of Physicians*, 1 (1793), pp. xix–xxxi.

[6]Preamble, Constitution of the College of Physicians of Philadelphia, 1787.

[7]Minutes of the College of Physicians of Philadelphia, Feb. 9, 1874; also Bell, *The College*, p. 137.

[8]Ibid., April 3, Dec. 4, 1878, March 5, 1879, also Bell, *The College*, p. 137.

it all cases of "suspicious bowel disturbance." Fortunately, the 1893 epidemic, which reached Europe through Hamburg, Germany, missed Philadelphia.

Cholera and tuberculosis, although quite different in their clinical expression, were the two communicable diseases that captured the College's attention as its members reaffirmed their commitment to supporting scientific advance during the 1880s and 1890s. Both diseases represented a convergence of new laboratory knowledge with a substantial public health threat, which may be why College Fellows devoted so much attention to them. Interest does not occur in a vacuum, of course, and Fellows active in epidemiology and bacteriology, notably Shakespeare, encouraged the College's interest in these two diseases. However, College archives contain little evidence that discussions concerning sexually transmitted disease took place during the 1880s and 1890s. Given that the subject of venereal disease figured prominently in late nineteenth-century medical literature concerning communicable disease, the College's lack of official interest in it suggests that College commitment to consideration of prevalent epidemic and endemic disease was selective not generic.[9]

Tuberculosis engendered intense College interest shortly after Robert Koch presented his findings on the structure of the tubercle bacillus and its mode of transmission to the Physiological Society of Berlin on 24 March 1882.[10] Within six months of Koch's publication in German of this talk, a College Fellow delivered a review lecture on the subject. Member Edward Shakespeare lived in Europe the next year so that he could work in Koch's and Pasteur's laboratories.[11] Indeed, if one reads the College's *Transactions and Studies* for 1886, one might think that debate over the etiology and transmission of tuberculosis had been settled. As member William Webb, M.D. wrote, "The discovery of the tubercle-bacillus is a scientific fact . . . The sputa of the phthisical contain these germs . . . and their introduction into the system of animals will always produce tuberculosis, *while nothing else will"* (emphasis in original).[12]

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[9]Robert L. Martensen, "Syphilis, Contagion, and the Place of Sexuality in Late Nineteenth-Century America," *JAMA*, 273 (1994), p. 269. Allan Brandt, *No Magic Bullet* (New York: Oxford University Press, 1985).

[10]Robert Koch, "Die Aetiologie der Tuberculose," *Berliner Klinische Wochenschrift,* 19 (1882), pp. 221–230.

[11]Bell, *The College*, p. 176.

[12]William H. Webb, "Facts serving to prove the Contagiousness of Tuberculosis; with Results of Experiments with Germ Traps used in detecting Tubercle-Bacilli in the Air of Places of Public Resort, and a Description of the Apparatus," *Trans. Coll. of Physicians,* 3 (1886), pp. 71–102.

The clarity of Webb's conviction suggests that most practitioners accepted the laboratory-based models of infectious disease put forward by Koch, Pasteur, and others after the mid-1880s. Most physicians, however, used ambiguous terms to describe what they knew about communicable disease. These ambiguities reflected physicians' ambivalence concerning the ability of new scientific models of etiology to explain complex clinical presentations. College Fellow Lawrence Flick, M.D. spent most of his medical career advocating for public registration and the sequestration of patients with tuberculosis, yet even he acknowledged slippages between the lab and the world. Writing in the 1920s, he opened his text entitled *Development of our Knowledge of Tuberculosis* with the following statement:

> *Scientifically speaking,* tuberculosis is the condition of a human being or an animal in which a microscopic entity known as the tubercle bacillus has been implanted and has grown in the tissues with ensuing toxemia and tissue changes. In *actuality,* the condition is modified by the idiosyncrasies of the individual in whom the bacillus has been implanted: by the character of the invading microorganism; by the length of time which has elapsed since implantation; and by whatever symbiology may have sprung up between the tubercle bacillus and other microorganisms which fraternize with it (emphasis added).[13]

Several factors account for physicians' diffidence about the new laboratory models of communicable disease, especially Koch's for tuberculosis. No settled nosology—the characteristic mark of a mature scientific domain—existed, as "germs" had not yet been divided into viruses, bacteria, and protozoa.[14] In addition, only a few medical schools in the United States provided rigorous training in microbiology or contagious disease during the 1890s. Koch's discovery of the tubercle bacillus had been based on his prowess in staining microorganisms; only a handful of American physicians, mostly younger men, knew enough about the subject to provide competent review. Most *practicing* physicians—certainly those in their fourth, fifth, and sixth decades, years when they often led professional

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[13]Lawrence F. Flick, *Development of Our Knowledge of Tuberculosis* (Philadelphia: Wickersham Printing Co., 1925).

[14]R. Harvey Reed, "A word on the modern use of the terms infection and contagion," *JAMA*, 26 (1896), pp. 458–460. See also Robert Martensen, "Reflections on the terminology of communicable disease," *JAMA*, 275 (1996), p. 965.

organizations—had received minimal training in any basic science.[15] Koch's well-publicized failure with tuberculin therapy in the early 1890s only added to the guarded acceptance his work received.

Furthermore, while most physicians lacked familiarity with laboratory methodologies and experimental evidence, they could and did draw upon a well-developed body of medical and moral opinion on the causes of communicable disease. Often the two were linked. For example, a leading professional society concerned with sexually transmitted diseases called itself the American Society of Sanitary and Moral Prophylaxis. Even Florence Nightingale, internationally famous for her efforts to reduce hospital-based infections during and after the Crimean War, remained opposed to the idea of specific contagion throughout her career.[16]

Instead, Nightingale and others used a mixture of medical and moral terms to explain how dirt and decay, malodorous air, dissolute behavior, poverty, and atheism caused communicable disease. However, when instituted, Nightingale's protocols, which insisted on cleanliness, good nutrition, ventilation, sanitation, and pious decorum, succeeded in reducing hospital-acquired communicable disease. A review of the bibliographic record of medical publications on hygiene is revealing: the 1902 *Index Catalogue* of the Library of the Surgeon General's Office included 163 pages of book and article entries on hygiene, only a page of which contained titles published prior to 1800. By comparison, entries for "Influenza" filled thirty-seven pages, while those for "Histology" only required seven.[17]

Debating the causes and the prevention of sepsis appealed to surgical as well as medical practitioners. Consider, for example, the path of Listerism in the United States. During the summer of 1867, the Scottish surgeon Joseph Lister introduced antiseptic surgery during a demonstration lecture in Dublin and in a series of published articles.[18] Although surgeons in Boston and Chicago discussed Lis-

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[15]Kenneth Ludmerer, *Learning to Heal: The Development of American Medical Education* (New York, NY: Basic Books, 1985).

[16]Charles Rosenberg, "Florence Nightingale on contagion: the hospital as moral universe," in idem, *Explaining Epidemics and Other Studies in the History of Medicine* (Cambridge, U.K.: Cambridge University Press, 1992), pp. 90–108.

[17]*Index Catalogue of the Library of the Surgeon General's Office, U.S. Army*, 2nd series, vol. 7 (U.S. Government Printing Office, 1902).

[18]Joseph Lister, "On a new method of treating compound fracture, abscess, etc., with observations on the conditions of suppuration." *Lancet*, 1 (1867), pp. 326–29; 357–59; 507–09; 595–96 and "On the antiseptic principle in the practice of surgery." *BMJ*, 76 (1867), pp. 246–48.

ter's new technique within days of his Dublin performance, American surgeons did not fully accept Lister's precepts until the early 1890s. Why was this so? What did it mean to accept Listerian antisepsis?[19] Briefly, Lister's practical innovations involved a complicated protocol, using carbolic acid sprays during operations and painstakingly prepared carbolic acid-soaked-dressings after surgery. Not incidentally, adoption of the technique meant making a "Martyr" of the surgeon's hands, to quote one contemporary.[20]

Listerian praxis in turn rested on a theory derived from Pasteur's work on fermentation and putrefaction during the early 1860s. Therefore, to be a proper Listerian, a surgeon needed to accept a new theory of wound infection as well as a cumbersome technique. But in the 1860s, the germ theory was hardly established. Older theories ascribing wound suppuration and postoperative fevers to filth and poisons emanating from dirt held sway, and surgeons did not always differentiate between the need for operative cleanliness and Lister's credo of antisepsis.[21] Differences between hospital infection rates in the United States and Europe also played a role. Generally, hospitals in the United States, which were newer and cleaner than those in Europe, cited substantially lower rates of "hospitalism" than their cross-Atlantic counterparts, prompting some American surgeons to argue that Listerism was suited to Europe but not to the United States.[22] A Boston gynecologist's 1884 assessment of Lister reflects the widespread ambivalence practitioners felt concerning his accomplishments: Lister "has reformed the entire system of surgery . . . but not one iota of credit belongs to his germs or to the theories he has built upon them."[23] Ten years later the question was largely moot, for asepsis, not antisepsis, was taking over the operating theater.

Just as surgeons did not embrace Listerism quickly, physicians practicing during the late nineteenth century did not rush to utilize some diagnostic chemical or microscopic tests, though for different

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[19]Thomas Gariepy, "The introduction and acceptance of Listerian antisepsis in the United States," *J. History of Medicine and Allied Sciences*, 49 (1994), pp. 167–206.
[20]Ibid.
[21]R. S. Sutton, "The importance of cleanliness in surgical operations," *JAMA*, (1883), p. 463.
[22]J. Erichsen, "Impression of American Surgery," in Gert Brieger, editor, *Medical America in the Nineteenth Century* (Baltimore: Johns Hopkins University Press, 1972).
[23]"Society Proceedings: Boston Gynaecological Society," *JAMA*, 3 (1884), pp. 270–74.

reasons. For example, while many physicians relished the prospect of earning fees from life insurance companies for examining candidates for large policies (and the potential gain of long-term consultations of the "better sort"), they expressed concern regarding potential conflicts of interest between their duties to patients and those to the companies. What if, to cite a recurring example, one of a physician's own patients, an influential local, wanted his or her physician to perform an insurance exam? Provided the patient was without signs or symptoms of chronic disease, this was a pleasant and rewarding task. But suppose the patient's urine persistently showed traces of protein. Should the physician pass the patient and collect the exam fee but risk alienating the insurance company, or instead recommend rejection of the patient, thereby perhaps losing a prominent patient as well as future evaluations from the referring insurance agent?

For the booming life insurance companies, the answer seemed straightforward. By detecting protein and cell casts, urinary exams were a handy, albeit crude, screen to exclude life insurance prospects on the premise that the test detected serious kidney disease, and hence, an early and unprofitable death. But a chemical urinalysis that revealed protein did not speak so decisively to many physicians. For example, urinalysis that detected protein could not differentiate between acute and chronic inflammation or an acute flare-up of a chronically diseased kidney. As William Osler, M.D. noted in 1892, "Naturally, (insurance) companies lay great stress upon the presence or absence of albumen, but in the most serious and fatal malady with which they have to deal, chronic interstitial nephritis, the albumen is often absent or transient, even when the disease is well developed."[24]

The Debate

Let us turn now to the resolution concerning public registration of persons with tuberculosis and the debate it engendered. DaCosta framed the issue as follows:

"*Resolved,* That the College of Physicians believes that the attempt to register consumptives and to treat them as the subjects of

[24]William Osler, *Principles and Practice of Medicine,* 3rd ed. (New York: D. Appleton, 1899).

contagious disease would be adding hardship to the lives of these unfortunates, stamping them as the outcasts of society. In view of the chronic character of the malady, it could not lead to any measures of real value not otherwise attainable.

"That strict attention on the part of physicians in charge of the individual cases, insisting on the disinfection of the sputum and of the rooms, on adequate ventilation, and on the separation of the sick from the well as far as possible, will meet the requirements of the situation so far as they practically can be met, and better than any rules that, for diseases so chronic, can be carried out by a Board of Health.

"That the College of Physicians respectfully requests that no official action be taken in the matter by the Board of Health, except the insisting on the disinfection of rooms in which consumptive have lived and died, in instances in which such procedure is not likely to have been adopted under the direction of the attending physician."[25]

Putting the date for the debate a couple of weeks into the new year gave interested parties time to prepare. Flick arrived at the meeting with prepared remarks and visual aids in the form of slides. Fellows John Shaw Billings and Herman Biggs, among others, did not attend but sent written comments to be read. "Special meetings" occurred rarely in the life of the College and one may wonder what prompted the calling of this one on the registration of patients with tuberculosis. The proximate cause may have been the strongly held opinion of the College's president, S. Weir Mitchell, M.D., the noted neurologist and novelist, against registration. He wanted the College on record as opposed to the Board of Health proposal.[26]

The opening remarks of several speakers suggest just how tentatively and partially many leading physicians a century ago held their beliefs about infectious disease models that had supposedly been "proven" in the laboratory and the field over a decade before. Wister, for example, opened the discussion with an emotional response in support of DaCosta's resolution. If the Board of Health distributed literature to the public on the need for registration, he feared the move "might lash the whole community into panic." Registration would also cause persons with tuberculosis to be "treated as criminals guilty of consumption."[27]

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[25]*Transactions,* 1894, op. cit.
[26]Minutes of the College of Physicians, December 6, 1893; Council Minutes, Dec. 26, 1893, MS College of Physicians of Philadelphia; also in Bell, 1987, op. cit., p. 181.
[27]*Transactions,* 1894, op. cit.

Furthermore, Wister continued, registration would not aid in eradicating tuberculosis because no such "hereditary disease can be eradicated by measures which only limit its spread by contagion; and if it is not hereditary, whence come those forms of tuberculosis other than pulmonary?"[28] Wister doubted that contagious models of tubercular transmission explained the existence of tubercular meningitis in infants and toddlers. Wister's use of the word "contagion" merits attention, for it had a somewhat different meaning in the nineteenth century than it does in the late twentieth. By "contagion," Wister and others meant a group of diseases—typically smallpox, measles, scabies, syphilis, mumps, whooping cough and typhus—that tended to appear, with the exception of syphilis, as epidemics with a self-limiting course.[29] Some influential mid-nineteenth-century physicians in the United States differentiated between these "contagions" and "infections," by which they meant communicable disease caused by a variety of social and environmental factors. Writing in 1864, Boston's Henry Bowditch, M.D. cited eight cases from his own practice in support of his opinion that a European "contagion" model of transmission for "consumption" was, "at least in this country, a delusion." However, "where the hereditary tendency to phthisis is strong," and one lived in a "phthisical atmosphere" and/or neglected "hygienic laws," the disease "may be *infectious*."[30]

Common reference to a hereditarian etiology for tuberculosis resonated culturally during an era when many leaders, including Theodore Roosevelt, believed that preservation of the race, particularly its Anglo-Saxon cohort in the middle classes, should be a major scientific and social goal.[31] Racist rhetoric concerning "preservation" and inheritence occurred at the same time that rhetoric concerning "degeneration" was becoming increasingly relevant. Contemporaneous with the College's debate, Max Nordau's text, *Entartung (Degeneration)* was a trans-Atlantic best-seller. Nordau, who was trained as a physician, used the literary conceit of a "history of present illness" to characterize Western societies as dangerously ill from degenerative tendencies brought on by the cel-

[28]Ibid.
[29]Reed, "A Word on the Modern Use," op. cit.; Martensen, "Reflections," op. cit.
[30]Henry I. Bowditch, "Is consumption ever contagious, or communicated by one person to another in any manner?" Henry Ingersoll Bowditch Papers, Holmes Hall, Francis A. Countway Library of Medicine, Harvard Medical School. Reprinted in Barbara Rosenkrantz, ed., *From Consumption to Tuberculosis*, op. cit.
[31]Allan Brandt, *No Magic Bullet*, op. cit.

ebration of free will and unbridled individuality. According to Nordau, civilization was in an irreversible decline. The writer Zola came in for particular opprobrium. Nordau's *Degeneration,* while immensely popular, engendered much controversy. George Bernard Shaw, for example, wrote that "I could prove Nordau to be an elephant on more evidence than he has brought to prove that our greatest men are degenerate lunatics."[32]

In the meantime, at the College DaCosta followed Wister and used hereditarian logic to "strike at the root of the evil" of tuberculosis's spread. Instead of registration, which would "cause more harm than good," he encouraged physicians to prevent the marriage of persons with tuberculosis. Conscientious physicians could do the job by themselves without registration.[33] In the late nineteenth century, most physicians apprehended congenital tuberculosis and syphilis as the separate, albeit related, diseases of "hereditary tuberculosis" and "hereditary syphilis." The conventional wisdom was that the mother—an "innocent bride" in the context of congenital syphilis in the middle classes—unknowingly infected by her husband, transmitted the disease to their offspring. Because tuberculosis and syphilis are so protean in their clinical expression, turn-of-the-century physicians who doubted the adequacy of Koch's and Pasteur's models cited the existence of extrapulmonary tuberculosis infections, such as scrofula, as evidence that a straightforward model of respiratory transmission for tuberculosis was not adequate. And if respiratory contagion was not an adequate model, what good would registration do?

Lawrence Flick, the author of December's failed registration resolution, spoke next. This time, instead of declaring as he had in December that tuberculosis's "contagion resides only in broken down tissue," Flick shifted etiologic agency from the wracked body of the patient to the consumptive's room, bed clothing, and furniture. According to his 1894 resolution, the Board of Health first needed to register and disinfect houses, not consumptive people. Next, the Board should establish a public tuberculosis hospital for isolation and treatment of the poor who were afflicted. Flick, who spent his career campaigning for registration, isolation, and public tuberculosis hospitals, then showed ten slides that illustrated his retrospective study of twenty-five years of deaths from tuberculosis

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[32]George Bernard Shaw, "A degenerate's view of Nordau." In D. H. Lawrence, ed., *Selected Non-Dramatic Writings of Bernard Shaw* (Boston, 1965), p. 372.
[33]*Transactions,* 1894, op. cit.

in Philadelphia's poor Fifth Ward. Tuberculosis epidemiological surveys that focused on place, usually in the form of dwelling units, were not uncommon, and Flick cited other similar studies. Herman Biggs, M.D., then professor of materia medica at Bellevue Hospital Medical College and director of the Department of Pathology and Bacteriology of the New York City Health Department, also made extensive use of similar epidemiological maps.[34] Flick then relayed several anecdotes, including the fact that tuberculosis had claimed lives in five families that had sequentially inhabited the same house in New Haven. He went on to compare reductions in the tuberculosis mortality rate in a European city that had taken "scientific precautions" against tuberculosis (Berlin) with the persistently higher death rate in *laissez faire* Paris.[35]

Whether or not tuberculosis merited the designation of a "contagious disease" empirically, to *name* it as one would have legitimated a set of state intrusions into private lives that few elitist physicians wanted for their middle- and upper-class patients. Even those who favored registration and isolation, such as Herman Biggs, and Flick himself, readily trimmed their sails as they advocated for public registration.[36] During the debate Flick wanted his proposed "central body" to "enforce such measure as will limit the spread of the disease among the poor. If we limit it among the poor, we limit it among the rich."[37] Advocating registration and isolation of the infected in sanitaria on another occasion, Herman Biggs wrote that he knew that private practice physicians would seldom report their tubercular patients but that it hardly mattered, for the disease was so concentrated among the poor that control of them would be sufficient.[38]

William Osler, then chief of medicine at Johns Hopkins Hospital and a College Fellow since 1885, spoke next. Osler, ever the diplomat, charted a middle course. First, he elucidated a multi-factorial etiology for tuberculosis based on its clinical manifestations. Given that pulmonary tuberculosis was the consequence of "para-

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[34]Charles-Edward A. Winslow, *The Life of Herman Biggs* (Philadelphia: Lea & Febiger, 1929).

[35]David S. Barnes, *The Making of a Social Disease: Tuberculosis in Nineteenth-Century France* (Berkeley: U. of California Press, 1995).

[36]Daniel M. Fox, "Social Policy and City Politics: tuberculosis reporting in New York City, 1889–1900," *Bull. Hist. Med.*, 49 (1975), pp. 169–195.

[37]*Transactions,* 1894, op. cit.

[38]Herman M. Biggs, "The registration of tuberculosis." *Philadelphia Med. Journal* (1900), pp. 1023–1029.

sitism" in the lungs and transmissible through infected sputum, registration "would be beneficial." Osler's use of a passive verb form in recommending registration belies his active promotion for the policy elsewhere. Later in 1894, for example, he published three pamphlets on tuberculosis, one of which included a strongly worded plea for registration of consumptives.[39] On the issue of whether infected sputum was the sole method of transmission, though, Osler hedged his bets. Hereditary transmission, he said, "must be accepted" as a less frequent "mode of infection." But conditions rendered people "more or less immune." Citing evidence from the Paris morgue that more than 50% of recent autopsies demonstrated pulmonary involvement, it was clear to Osler that the "*soil,* then, has a value equal almost to that which relates to the *seed.*"[40] In order to limit the spread of tuberculosis, physicians needed to combat inherited weakness, remove acquired debility, and maintain patients' nutrition.[41]

While fully up to date with Koch's paradigm, Osler's additional rhetoric of soil and seed carried an echo of older holistic conceptions of disease as a consequence of the intersection of a person, place, and season. In his text on fevers, first published in the 1670s, Thomas Sydenham, who acknowledged only Hippocratic authorities, refurbished the notion of "constitution" and "epidemic constitution" to describe both people and places as they existed in particular places with particular airs, waters, and so forth in the context of widespread fevers. Sydenham's natural history method eschewed traditional learned medicine's focus on bodily structure and function (known as anatomy, physiology, and pathology in the nineteenth century but only as anatomy in Sydenham's time), in favor of nosologies of fevers and clinical experience expressed in aphorisms. Sydenham's American disciple, Benjamin Rush, subsequently adapted Sydenham's "epidemic constitution" to an American context, where it was widely disseminated during the first half of the nineteenth century thanks to Rush's prominence as a medical educator.[40]

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[39]William Osler, "Discussion on the Advisability of the Registration of Tuberculosis," *Transactions and Studies of the College of Physicians of Philadelphia*, 16 (1894), p. 14.

[40]William Osler, "Discussion on the Advisability of the Registration of Tuberculosis," *Transactions and Studies of the College of Physicians of Philadelphia*, 16 (1894), p. 14.

[41]Ibid.

Osler's judicious embrace of both the lab and the world conveniently left room for practitioners at both ends of the spectrum to feel justified in their approaches. Writing elsewhere, G.W. Hambleton, M.D., for example, assigned the etiology of "consumption" to reduced breathing capacity. Improve a patient's vital capacity, he wrote, and you would prevent the disease, or, if it were present, improve the patient's course. In either case, practitioners need not spend much intellectual effort considering tuberculosis's etiology and laboratory reality.[42] Alternatively, Koch and Pasteur and their colleagues could observe complex human illnesses yet feel confident in their radical commitment to material explanations that were limited to laboratory models with relatively few variables.

Despite Flick's outspoken plea and Osler's brief and mild recommendation for registration, they and John Roberts were the only Fellows present who supported Flick's resolution in favor of registration and establishment of a municipal tuberculosis hospital. Not until 1915 did the College officially change its mind, when the minutes record a consensus opinion that tuberculosis is "a contagious disease transmissible from one person to another" and that the Director of Philadelphia's Department of Public Health have authority to remove infected persons who were "a menace" to family or neighbors to tuberculosis isolation facilities.[43] The College's timing reflected a sea change in orthodox medical opinion on the etiology and public management of tuberculosis and some other infectious diseases that had occurred during the intervening two decades. One year later, the U.S. Public Health Service made tuberculosis a reportable disease.

Conclusion

Organized medicine a century ago was just coming to terms with laboratory models of disease transmission. While most physicians were quite happy to claim the additional mantle of "scientist," their ambiguities about the language of infection and the etiologic importance of "germs" in disease reflect their ambivalent commitment to a laboratory language that abstracted bodily illness to just mech-

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[42]George W. Hambleton, "The suppression of consumption," *Science*, 15 (1890), pp. 253–258.

[43]Minutes of the College of Physicians, Feb. 3, 1915, MS College of Physicians; also Bell, *The College of Physicians*, op. cit.

anism, structural flaws, and single causal chains. For most practitioners, however, communicable disease had not yet been reduced to a series of technical interventions. And adoption of precise technical language regarding infection would have foreclosed social and moral dimensions of illness that remained culturally vital. While physicians occasionally fretted about their lack of precise language, the capaciousness of their semantics permitted them to direct patients to attend to all aspects of their health and domestic hygiene without obliging themselves or their communities to upset venerable public moral, economic, and social conventions. In doing so they illustrate what the late philosopher of science and microbiologist Ludwick Fleck wrote in 1935 about the development of scientific facts in general: "In science, just as in art and in life, only those facts which are true to culture are true to nature."[44]

Was the College's late nineteenth-century approach effective? No one knows with certainty. It is worthwhile to note, however, that between 1830 and 1882, the year Koch discovered the tubercle bacillus, the mortality rate from tuberculosis had fallen by half in Britain. By 1940, just before antibiotics first came into large-scale usage against tuberculosis, the mortality rate was down 90% from the early nineteenth century.[44]

[44]See Benjamin Rush's notes to William Hillary, *Observations on the changes of the air, and the concomitant epidemical diseases in the island of Barbados* (Philadelphia: B. & T. Yite, 1811), also Benjamin Rush's notes on John Pringle, *Observations on the diseases of the army* (Philadelphia: A. Finley, 1812), Benjamin Rush's notes on Thomas Sydenham, *The Works of Thomas Sydenham, MD, on acute and chronic diseases* (Philadelphia: Benjamin & Thomas Kite, 1809).

Magic Bullets: Relations between Science, Magic, and Religion

David Y. Cooper

Of course there is no such thing as a magic bullet but there are drugs that seek specific targets. Paul Ehrlich introduced the term "magic bullet" or "zauberkugel" to help simplify the description of antigen-antibody reactions as well as his ideas for developing chemicals that specifically killed bacteria while leaving normal tissues unharmed. In German, zauber means magic and kugel means ball or bullet. In a much quoted speech he made in 1906, Ehrlich presented his belief that bacterial infections could be cured if one could develop substances that had an exclusive affinity for bacteria.[1] These substances would act deleteriously or lethally on bacteria without having any affinity at all for the host's constituents. They would act exclusively on bacteria or parasites within an organism and would represent, so to speak, "magic bullets" that would seek out specific targets. How did Ehrlich arrive at the idea of using the metaphor of the "magic bullet" to explain his theories of immunity and chemotherapy?

It is possible that Ehrlich became familiar with "magic bullets" through Carl Maria von Weber's 1821 opera *Die Freischutz* – a legend about magic bullets. Or did he read August Apel and Friederich Laun's *Gespensterbuch,* the story from which *Die Freischutz* was adapted.[2]

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[1]Paul Ehrlich, Address delivered at the opening of the Georg-Speyer Haus, 8 September 1906 in Henry Dale and F. Himmelweit, eds. *The Papers of Paul Ehrlich* (London: Pergamon Press, 1960), volume III.

[2]As early as 1487 the *malleus maleficarum* or *Hexenhamme* contained references to rituals and formulas for constructing arrows and forging bullets that would unerringly seek their targets. Otto Gruben zum Steins's *Unterredungen von der Reiche der Geister zwischen Andrenio und Pneumatophilo* contains a report of court records from the Bohemian town of Taus (modern Domazlice) that mentions a clerk, Georg Schmidt, who was a greater lover of target practice and who liked to win. He sought

Gespensterbuch and *Die Freischutz* tell the story of a young forester who is in love with the daughter of the head forester. His marksmanship as a hunter, however, is failing and he must pass a test to prove his worth as a forester and to be able to marry his love. He knows that he will fail the test. A fellow forester gives him a magic bullet and tells him to fire at an eagle that is flying high, far beyond the range of the bullet. The young forester fires and the eagle falls. He then asks his colleague what kind of bullet he has used. The colleague says that it is a magic bullet and that he can obtain more if they meet at the Wolf's Glen at midnight. They meet as planned and Samuel, a sorcerer, is called forth. Seven bullets are forged. Six of them will go to the target that the young forester desires but the seventh is controlled by the devil. It comes to pass that during the forester's test shoot he fires and brings down a white dove that is in fact his sweetheart mystically transformed. In the midst of this tragedy a hermit appears and through his advice all problems are solved and the opera ends happily.

During the early nineteenth century, German folklore was full of mystical tales involving magic and sorcery.[3] When Ehrlich grew up there were many folk tales about witches, sorcerers, and magic. It is quite possible that Ehrlich read Apel and Laun's story or attended a performance of *Die Freischutz.*

Although we all know that magic is not science, it is interesting to point out its relation to science and, in turn, science and magic's relation to religion. Science and magic assume that the processes of nature are rigid and invariable whereas most religions posit a superior power that controls or directs the course of nature and of human life. By pleasing this supreme power through prayer and supplication human beings can hope to influence the course of nature. Magic and science on the other hand require that humans perform a series of actions that are intended to change the natural course of events.

Because magic is based on false premises it is regarded as an illusion. Science, however, is used to elucidate the laws of nature and to find ways that these can be altered to meet human needs.

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to improve his marksmanship through the aid of a mountain huntsman skilled in the manufacture of magic bullets. The report ended by describing the horror that resulted. August Apel and Friedrich Laun retold this story in *Die Freischutz* in a slightly altered form.

[3]James Fraser. *The Golden Bough* (London: Macmillian and Company, 1911), pp. 52–53, 121.

Working as a scientist, Ehrlich discovered laws of chemistry that allowed him to forge drugs that acted as magic bullets, drugs that sought out their targets of their own accord. Ehrlich's search for substances whose molecules are drawn to active areas on bacteria and cells became a fundamental tenet of modern medical therapy. It is fascinating to speculate that the embryonic idea that eventually led to the development of modern medical therapy emerged from the legend told in Germany's first Romantic opera.

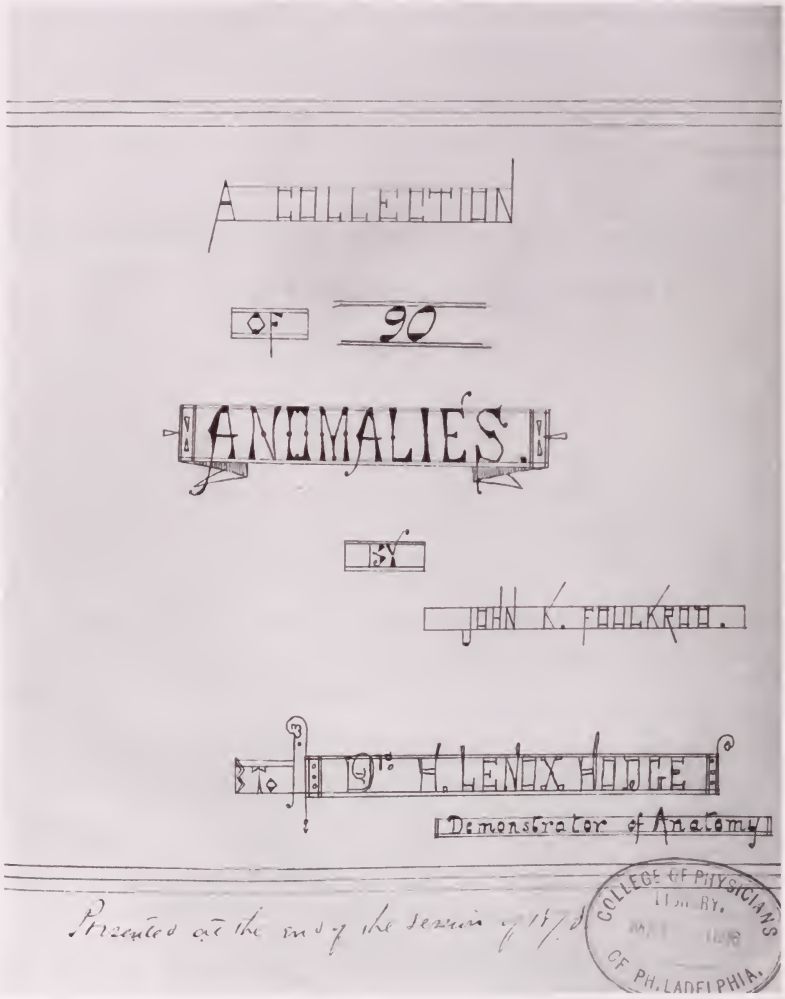
Anatomical Drawings Submitted for the Hugh Lenox Hodge Prize, 1878

Erin McCleary, Christopher Stanwood, Deborah Franklin

Beginning in 1872, medical students at the University of Pennsylvania could compete for two prizes offered by the Demonstrator in Anatomy, Hugh Lenox Hodge (1836–1881). One, a gold medal, was awarded to the student who "exhibit[ed] the greatest diligence, care and skill in the practical study of anatomy." The other, a cash award of thirty dollars, was given to the student who presented Hodge with "the best record of the anomalies found in the anatomical rooms during the year."[1]

Twelve "records of anomalies" submitted for the Hodge prize were recently rediscovered in the Library of the College of Physicians of Philadelphia. The majority of these consist of a series of drawings of anomalies accompanied by short textual descriptions; more ambitious students included information such as the relative frequency of various anomalies or their rationale for including certain specimens. Louis Carbonell, for instance, who submitted his record in 1879, noted that he had "endeavored to procure only those which were of surgical interest rather than a large number of curiosities." Aesthetic interest alone might warrant the reproduction of submissions for the Hodge prize, but their existence also raises interesting questions about anatomy, drawing, and medical education in late-nineteenth-century Philadelphia.

By the time the prize was established, Hugh Lenox Hodge was already an experienced teacher of anatomy. The son of the University's Professor of Obstetrics, he had received his M.D. in 1858 and began practice as a resident physician at Pennsylvania Hospital. In

[1]Announcement of the University of Pennsylvania Medical Department, 1872.

Title page of John Foulkrod's submission for the Hodge Prize. Other students added artistic elements such as frontispieces or page borders to their work.

1860 he began seeing patients at the family property on Ninth and Walnut Streets. He was hired in 1861 as a Demonstrator in Surgery by the University of Pennsylvania and soon found himself involved in the "quiz industry" that had developed around most major medical schools during the first half of the nineteenth century. The sessions

that Hodge taught with Drs. Robert Bolling and J. Cheston Morris soon expanded to become a formally chartered school designed to supplement medical student education, particularly during the summer months. Students attended the Medical Institute, as it was called, to hear clinically pertinent lectures often accompanied by illustrations, to see demonstrations, but probably most important of all, to advance their knowledge of anatomy through dissection.

The Medical Institute—and its competitors like the well-established and neighboring Philadelphia School of Anatomy—did not teach medical students exclusively. Courses in anatomy were offered to artists, and at least one member of the faculty of the Philadelphia School of Anatomy, William Williams Keen, M.D., taught at the Philadelphia Academy of the Arts. The classroom relationship between anatomists and artists was not limited to that of teacher and student, as lecturers in anatomy regularly employed artists to provide illustrations for their lectures. As early as the 1840s a professional artist accompanied surgical lecturers to Blockley Hospital "in order to point out the particular features of each malady and thus secure an impressive illustration."[2]

Drawing was (and continues to be) the preferred method of illustration in gross anatomy, even after the development of photographic techniques. Medical illustrators have routinely praised the clarity and descriptive accuracy of drawing since the field began to professionalize in the early twentieth century.[3] During the nineteenth century, however, the importance of drawing for anatomy extended beyond its depictive function.

Many nineteenth-century educators, such as Alexander Dalles Bache and Charles Davies, linked drawing to the development of observational skills. They believed that drawing encouraged mental acuity and sound reasoning. Drawing manuals, which had been oriented toward an upper-class audience, were increasingly incorporated into school curriculums during the nineteenth century.[4] In

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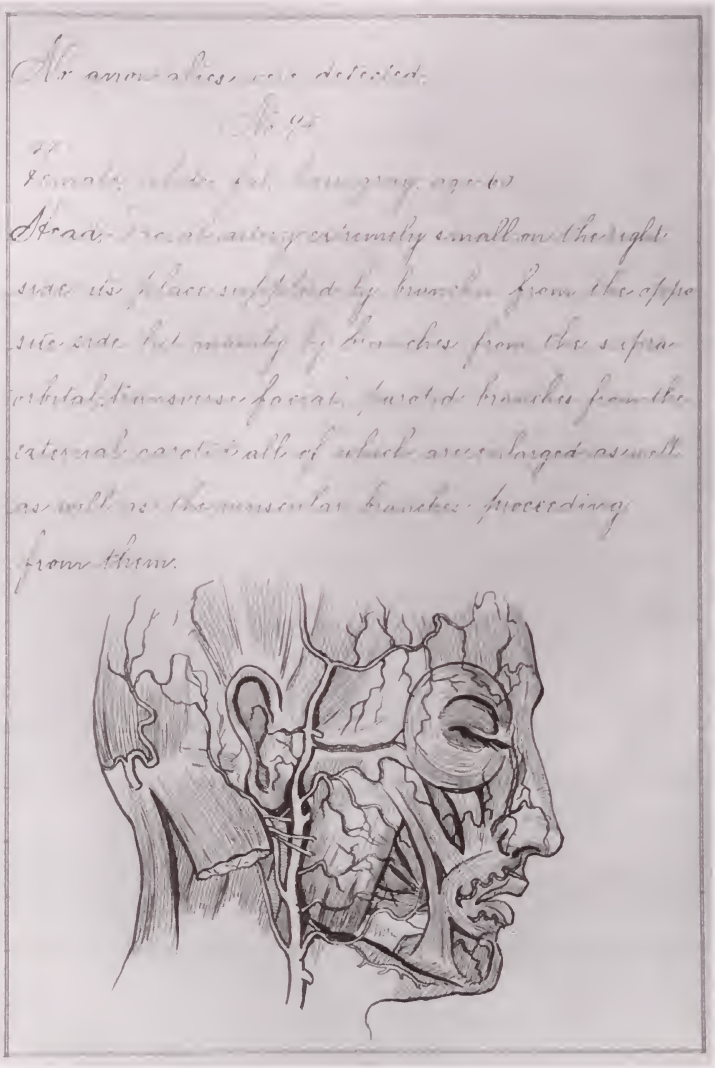
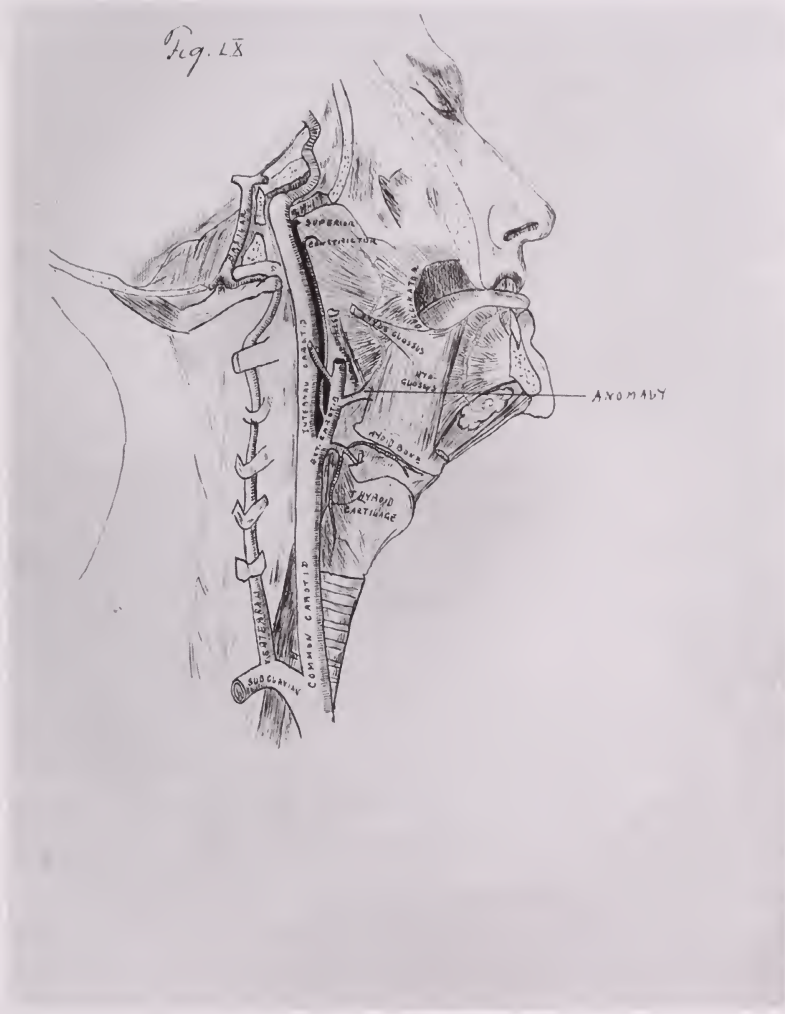
[2]*An Account of the Medical Institute of Philadelphia with a List of Pupils for 1844* (Philadelphia: John C. Clark, 1845).

[3]See, for example, Max Brödel, "How May Our Present Methods of Medical Illustration be Improved?" *Journal of the American Medical Association* 49, no. 2 (1907), pp. 138–140; Frank Netter, "Medical Illustration: Its History and Present Day Practice." *Journal of the International College of Surgeons* 26 (July–December 1956), pp. 505–513.

[4]Eliot Bostwick Davis, "American Drawing Books and Their Impact on Winslow Homer." *Winterthur Portfolio* 31 (1996), pp. 141–163.



Right Side of Face. Drawn by John Edgar. Edgar's description reads: "Female, white, fat, hair gray, age 60. Head—Facial artery extremely small on the right side its place supplied by branches from the opposite side but mainly by branches from the supra-orbital, transverse facial, parotid branches from the external carotid all of which are enlarged as well as the muscular branches proceeding from them." Edgar described in his text five further anomalies found in this subject, but did not draw them.



Right Side of Face and Neck. Drawn by John Foulkrod. Foulkrod's description reads: "This anomaly was taken from a male negro subject, used by Dr. Chapman. It consists of a very low division of the external carotid artery. The artery divides a short distance above the angel of the inf[erior] maxillary. It should divide at the condyle. The posterior auricular should come off from the ext.[ernal] carotid, but is here given off from the temporal."

Philadelphia, for example, the prestigious Central High School emphasized drawing instruction; drawing became a mandatory subject for students in many other public and private schools as well.[5] The importance of drawing instruction was perhaps most succinctly expressed by Rembrant Peale, author of one of the most popular American drawing manuals, who reasoned that mastery of the skills of drawing ensured mastery of "the art of seeing and understanding."[6]

Hodge, like many other anatomists in this period, supported a more active method of studying anatomy that emphasized hands-on learning over didactic lectures and demonstrations. Dissection encouraged accurate visualization of anatomic relationships; drawing, according to some anatomists, trained the surgeon's eye and hand, and increased the efficacy of medical teachers.[7] As W.P. Carr noted in his 1891 address to the American Association of Anatomists, "word-pictures alone, no matter how forcible and true, make but comparatively dim and transient impressions upon the brain. Most anatomic facts are remembered by means of mental pictures—mental photographs upon the brain." These mental photographs were created, he asserted, through the habit of drawing one's dissections.[8]

Emphasis on the trained eye and hand in secondary school drawing instruction coincided with new methods of training in medical education. By 1870 reforms were underway in many areas of medical education, as curriculums were expanded and the school year extended, a movement led by Charles Eliot at Harvard. Increasing opportunities for active learning within the degree-granting medical schools meant, however, that the need for extra-mural schools such as the Medical Institute lessened. The Institute closed in 1872 and the Philadelphia School of Anatomy followed suit in 1875. Hodge, who was described by one of his colleagues as a warm advocate of medical education reform, had resigned from the Medical Institute in 1870 when he accepted the position as Demonstrator in Anatomy at the University of Pennsylvania's Department of Medicine.[9] There he sought to modernize the teaching of

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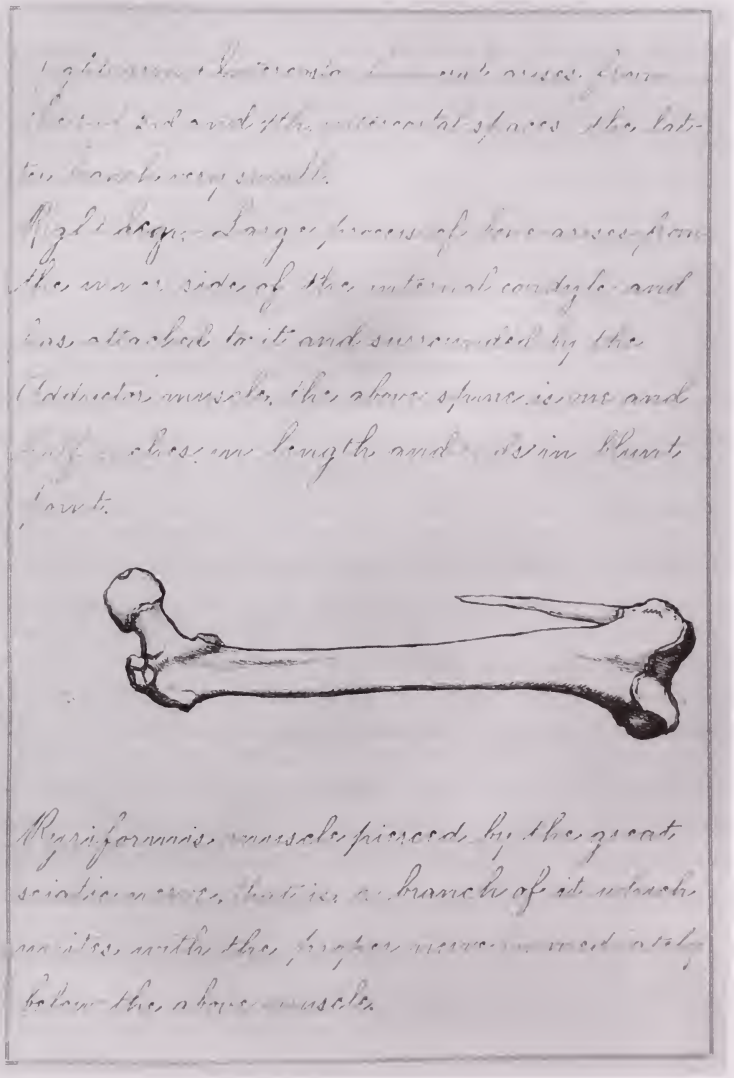
[5]Elizabeth Jones, "Drawing Instruction at Central High School and Its Impact on Thomas Eakins." *Winterthur Portfolio* 15 (1980), pp. 139–149.

[6]As quoted in Jones, p. 142.

[7]William Anderson, "A Discussion of Art in its Relation to Anatomy." *British Medical Journal* (August 10, 1895), pp. 349–358.

[8]W.P. Carr, "Systematic Use of the Eye in Teaching Anatomy." *Medical News* 60 (February 13, 1892), pp. 179–180.

[9]Memoir of H. Lenox Hodge, *Transactions of the Medical Society of the State of Pennsylvania* 14 (1882), pp. 357–365.



Anomalous Right Leg. Drawn by John Edgar. Edgar's description of this specimen reads: "Large process of bone arises from the inner side of the internal condyle and has attached to it and surrounded by the adductor muscles, the above spine is one and half inches in length and ends in blunt point." On a previous page, Edgar notes that the first anomaly was found in a white female subject, aged 46. The comments about the pyriformis muscle and the sciatic nerve refer to a subsequent drawing in his notebook.

anatomy, most significantly by providing adequate and clean dissection facilities for all medical students. His vision is eloquently presented in his 1875 essay "Anatomical Rooms—Plans for their Construction, Ventilation, and Hygienic Management," in which he called for lighter, more spacious dissecting rooms with sinks and antiseptic marble tables. Existing conditions, Hodge wrote, endangered students' health, as was manifested by cases of "dissecting room diarrhea."[10]

Historian John Blake has identified an intellectual reorientation in the teaching of anatomy that occurred alongside architectural innovations such as the ones Hodge instated at the University of Pennsylvania.[11] No longer was anatomy to be taught as mere preparation for surgery. It was to be respected as a science in its own right. As Blake explains, "anatomists were able to grow as scientists by bringing into their field such relatively new subjects as microscopic anatomy and embryology, where research opportunities were many."[12] This development, however, meant that "the traditional primary subject for medical students—gross human anatomy—was no longer a major field for scientific research." Some professors made valiant efforts to turn it into a research subject by emphasizing the observation and recording of variations in the structure of human bodies.[13] This was, wrote anatomist C. R. Bardeen, "the salvation of gross anatomy as an object of intellectual interest to teachers and students."[14] The Hodge prize can be understood as part of an intellectual and pedagogical trend that emphasized the skills and habits of observation and drawing as well as an effort to stimulate and enhance medical student interest in gross anatomy in as scientific a way as was possible.

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[10]H. Lenox Hodge, "Anatomical Rooms—Plans for their Construction, Ventilation, and Hygienic Management," *Virginia Medical Monthly*, II (1875), pp. 467–476.
[11]John Blake, "Anatomy." In Ronald Numbers, ed., *The Education of American Physicians: Historical Essays*. Berkeley: University of California Press, 1980, pp. 28–47.
[12]Blake, p. 42.
[13]Blake, p. 42.
[14]Charles Russel Bardeen, "Report of the Committee on the Teaching of Gross Human Anatomy," *Proceedings of the Association of American Medical Colleges* 30 (1920), p. 20.

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